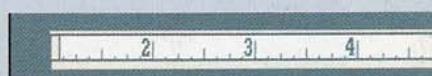
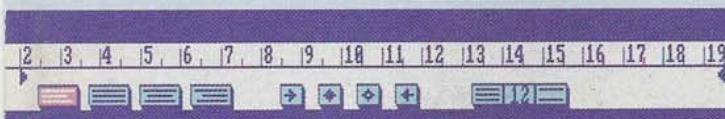
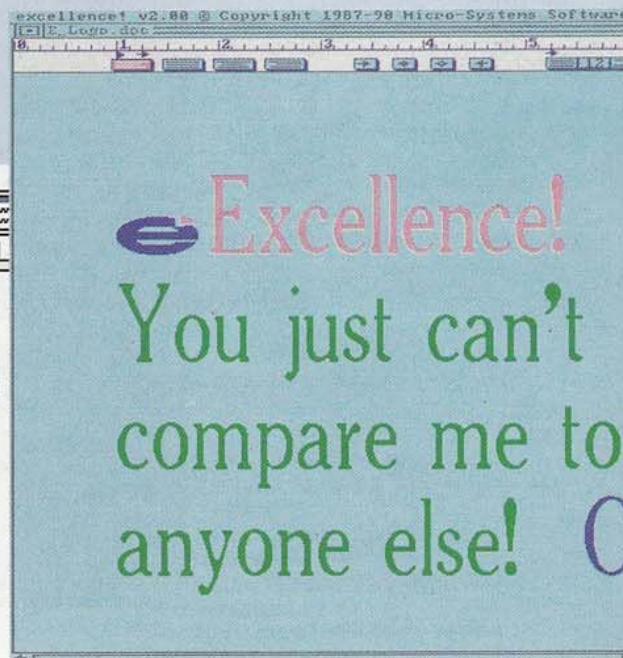
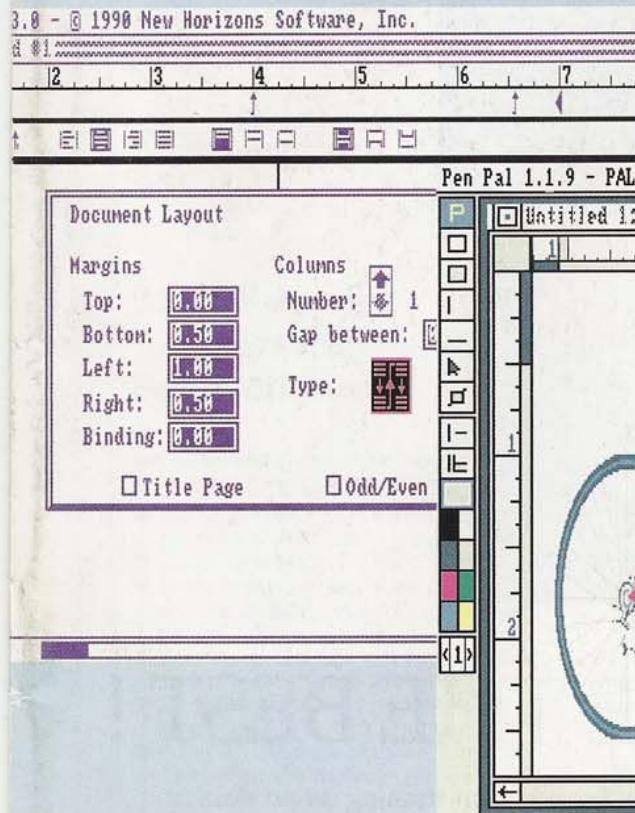


The Australian COMMODORE and AMIGA REVIEW



WYSIWYG Wordprocessor Comparison Excellence 2.0 vs ProWrite 3.0 vs Pen Pal



- Blitz BASIC Preview ● C64/128 CMD Hard Drive
- CLI-Tutorial ● C64 Column ● GEOS Column
- System III Accounts ● Games: Skate of the Art & Hot Rod

PageStream



DETERMINED TO BE THE BEST !

This entire brochure was created and colour separated using PageStream running on an Amiga 2000, proofed on an Apple LaserWriter II NTX PostScript compatible laser printer and the final separations were output to a VariTyper 4300. The 24-Bit Colour Fireworks image is from The Professional Photography Collection by Discimager.



P.O. Box C64, Mt. Kuring-Gai, N.S.W. 2080
Phone: (02) 457 8388 Fax: (02) 457 8739
Technical Support: (02) 457 8548

The Australian COMMODORE and AMIGA REVIEW

Editorial	<i>A meagre editor speaks!</i>	2
Ram Rumbles	<i>Media sightings, pirates all at sea</i>	4
Notepad	<i>What's new?</i>	6

Amiga

WYSIWYG Showdown	A. Farrell	Word processing comparison	14
System - 3	K. Carpenter	Accounts	19
Optical mouse	Competition	lay out some cheese	22
Blitz Basic	A. Farrell	Another powerful BASIC	34
In the public domain	M. Taylor	More from Fred Fish & Co	36
CLI - part 4	A. Leniart	AmigaDOS tutorial	50

C 64 / 128

CMD Hard Drive	R. Gasson	Hardware	24
The 64 Column	O. James	Georam, CD-Rom, Upgrading	44
Sound & Graphics	G. Perry	User defined characters	61
The Geos column	B. Lyon	Geos kernel - and more	57

Programming

Playing the D Strings	D. M. Henderson	Introducing cyclic strings	42
-----------------------	-----------------	----------------------------	-----------

Entertainment

That's Entertainment	P. Campbell	Hints & Tips, Hall of Fame Mindscape Competition	64
Game Reviews		Datastorm, Hot Rod, Block out, Ninja Spirit, Skate of the Art, African Raiders, Crack Down	69
Quick Shots		A first glance at new games	70
Adventurer's Realm	M. Spiteri	Help for problems, clever contacts, the Origin company	77

Advertisers Index

80

Australian Commodore Review: 21 Darley Road Randwick,
NSW 2031 Phone: (02) 398 5111
Published by: Saturday Magazine Pty Ltd.

Editor:

Andrew Farrell

Entertainment Section Editor:

Phil Campbell

Advertising:

Ken Longshaw (02) 398 5111

or (02) 817 2509

Production:

Brenda Powell

Layout:

Andrew Dunstall

Subscriptions & back issues:

Andrew Dunstall (02) 398 5111

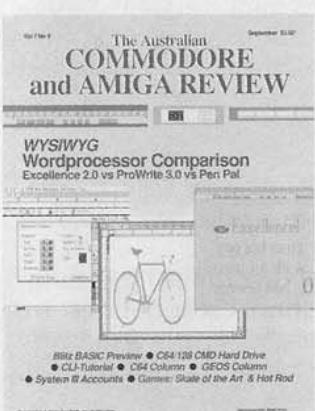
Distribution:

NETWORK Distribution

Printed by:

Ian Liddell Pty Ltd

**VOL. 7
NO. 9
SEPTEMBER
1990**



MEGADISC

TO MAKE THE MOST OF YOUR AMIGA

New Toll-free Number for ORDERS ONLY - 008 227418

MEGADISC was designed to help you really learn how to use your Amiga. Tutorials, articles, reviews, hints and tips, useful software, and much more are included to help both the beginner and the veteran to use the Amiga more productively. Not too serious and not too lightweight, MEGADISC entertains you while you learn. Available as single issues, subscriptions of any 3 or 6 issues (past or future), or as a TRIAL PACK (including MEGADOS, our Amiga Manual-on-Disk and MEGADISC 17, and our Catalogue-on-disk). If you get a TRIAL PACK, you can subscribe later for the lower rate mentioned below. Megadisc subscribers get lower prices on all our products, including over 1400 public domain disks. Every Megadisc has the latest VIRUS-KILLER.

MEGADISC 18 IS NOW AVAILABLE!

CALL & ASK FOR YOUR FREE CATALOGUE-ON-DISK!

Special offers!

THE ENTIRE MEGADISC SERIES

Order MEGADISC 1-17, MEGADOS and 4 free Public Domain Disks for \$190!
That's 22 information-packed disks! (You can order your PD disks later.)

MEGADOS

AmigaDOS Manual-on-disk, with all you need to know about CLI, Workbench 1.2, 1.3
and ARP described in layman's terms for \$19.95. Price for current subscribers \$13.95

TRIAL PACK

MEGADISC 17, MEGADOS, AND CATALOGUE-DISK for \$29

PAST AND CURRENT SUBSCRIBERS - RE-Subscribe for less!

\$45 instead of \$50 for a 3-issue subscription (free PD incl.)
\$80 instead of \$90 for a 6-issue subscription (free PD incl.)

PUBLIC DOMAIN DISKS FOR \$5 EACH - \$4 FOR SUBSCRIBERS

All our 1400 Disks are fully described on our FREE Catalogue-disk

Buy 10 PD disks, get one free - ie, 11 PD disks for \$40 or \$50!

GAMES 10-DISK-PACK & PD 10-PACK FOR \$50 each, in plastic disk box

WE ALSO TAKE BANKCARD, MASTERCARD and VISA ORDERS BY PHONE OR FAX
CONTRIBUTIONS OF ANY KIND ARE MOST WELCOME - PLEASE CALL

Non-Subscribers: Please add \$2 P & P if ordering Public Domain disks only

I enclose a Cheque/Money Order for or please charge my Creditcard:
Mastercard/Bankcard/Visa No: Exp:
Please send me: Catalogue-on-Disk AT NO COST: TRIAL PACK \$29
ANY 6 issues of MEGADISC for \$90 (please specify): [\$80 for re-subscribers]
ANY 3 issues of MEGADISC for \$50 (please specify): [\$45 for re-subscribers]
MEGADISC 1-17 and MEGADOS and 4 P.D. disks for \$190:
The 4 free PD disks I want (2 in the case of a 3-issue sub) are:
OR please send your Catalogue-on-Disk now and I will choose the remaining disks later:
10-DISK GAMES PACK for \$50: PD 10-Pack in box for \$50
BEGINNER'S PACK (3 DISK SET for \$29)
MEGADOS AMIGA DOS MANUAL-ON-DISK FOR \$19.95 FOR CURRENT SUBSCRIBERS \$13.95
3 DISK ANIMATION SET for \$15 OTHER ORDERS : Please attach.

Signature: _____
Name: _____
Address: _____ Telephone: _____ Date: _____

Send to: MEGADISC, P O BOX 759, Crows Nest 2065.
Telephone: (02) 959 3692 (all hours) FAX: (02) 959 3525

Editorial

WHAT has happened to Amiga development? It seems lately that all we ever see are new versions. *Excellence!* has hit version 2.0, *ProWrite* is at version 3.0, *Professional Draw* 2.0 is out and *Professional Page* 2.0 is in the pipeline, *Page Stream* 1.8 is shipping and 2.0 is not far off.



Whatever happened to new product development? Well, it is the end of summer in America. Traditionally, the last four months were the worse time to launch a product, and the next four are about the best - just prior to their winter. So, in coming months we can look forward to *Saxon Publisher* - a new publishing program; *Imagine* - a new ray tracing program and *Animation Studio* - a new cel animation package.

What about the C64? The C64 is a great machine and is still good value for money. But new software releases are now mainly ports from other machines, and games. Nevertheless *Geos* and other productivity titles seem to be more popular now than ever. So, in Australian Commodore and Amiga Review, our Geos and C64 column will continue! Check out the CMD-Hard Drive review in this issue.

For the Amiga this month, we've compared some of those new program versions in the land of WYSIWYG wordprocessing. The three we've examined handle bit-mapped fonts and provide a full graphic interface. There are many other wordprocessors which provide in-between solutions or more text-based interfaces. These will be the subject of other comparisons in the future. Once again, we welcome contribution of any description.

I should mention that due to the large number of correspondence and contributions we receive we cannot personally respond to every letter - however we are trying to improve that, so please be patient with us.

Edwin Huang, Commodore's well-liked marketing manager, has moved on to spend more time pursuing his passion for music. Rumour has it that he will still be involved with the Amiga industry - he always was a true Amiga fan.

GVP Announces a Technological Breakthrough...

SERIES II™ THE NEXT GENERATION

in SCSI and RAM Controllers for the A2000®

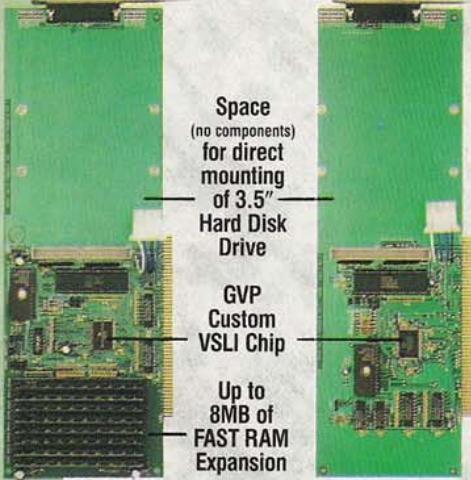
IMPACT
Series II

GVP's New SERIES II A2000 SCSI and RAM Expansion
Controllers provide the ultimate hard disk and RAM expansion
solution for the A2000. Choose from two new models:

The Series II A2000 SCSI "Hard-Disk + RAM-Card"

- State-of-the-Art integration packs a high performance SCSI controller, 8MB FAST RAM Expansion and a 3.5" hard disk drive INTO A SINGLE A2000 EXPANSION SLOT!! Saves BOTH a valuable expansion slot and a peripheral bay!
- Incredible SCSI hard disk performance achieved through GVP's innovative new custom chip design, which provides DMA performance and unique direct dual port memory access to FAST RAM, eliminating typical DMA side effects under heavy graphics load.
- Easy-to-install SIMM memory modules allow flexible memory configurations from ZERO through 8MB. Supports 6MB FAST RAM configuration for BridgeBoard users.
- NEW **FAAASTROM™** SCSI Driver offers optimum performance and includes such features as:
 - ✓ Supports virtually any SCSI device including, CD-ROMs, Tape Drives, IOMEGA Bernoulli drives, etc.
 - ✓ Fully implements SCSI Disconnect/Reconnect protocol, allowing overlapping SCSI commands to be executed.

Hard-Disk+RAM-Card



Hard-Disk-Card

- ✓ Fully implements Commodore's Rigid Disk Block (RDB) standard as well as the new DIRECT SCSI interface standard.
- ✓ Removable media drive support. Automatically senses cartridge changes and informs AmigaDOS, ensuring safe and reliable use of removable media SCSI drives.
- ✓ Allows Direct AUTOBOOT from Fast File System Partition.
- New INTUITION COMPATIBLE SCSI installation and "tuning" utility included. Major features include:
 - ✓ ICON and gadget based INTUITION interface.
 - ✓ Bad Block Remapping of hard drives.
 - ✓ Auto or manual hard drive partitioning and AmigaDOS formatting.
 - ✓ Read and modify existing RDB parameters on hard disk.
 - ✓ Simplest and Easiest SCSI installation in the industry.
- Low parts count (through VLSI Integration) EQUALS: lower power, higher reliability, longer life and ultimate PRICE/PERFORMANCE! See TRADE-UP offer.

The Series II A2000 SCSI "Hard-Disk-Card"

- Same as above but without the 8MB FAST RAM capability.
- Specially designed for those users who don't need memory expansion but still need maximum hard disk performance at a budget price.
- UNBEATABLE VALUE. See \$199 trade-up offer!

GVP's New **FAAASTROM** SCSI driver and installation software is also available as an upgrade kit for GVP's original IMPACT SCSI controllers, for ONLY \$89.95. Offers major performance increase over previous GVP AUTOBOOT EPROMS.

New Series II 48MB Removable media hard disk drive. GVP now also offers the NEXT GENERATION removable media hard disk drive which offers increased capacity (48MB formatted) and major technological advances in cartridge air flow filtering design and robustness. Call for details.



SCSI TIMES

The ULTIMATE Trade-Up Offer???

GVP today introduced its new Series II product line and announced a bold new trade-up program, which is certain to further bolster GVP's dominant market share in the Amiga hard drive market.

Details of GVP's new TRADE-UP program are as follows:

- For \$199 plus \$6 for shipping (Aus only) end-users can trade-up to the new GVP Series II SCSI "Hard-Disk-Card" (without drive) by simply sending in their present SCSI controller (from ANY manufacturer) together with a money order or certified check, payable directly to GVP.
- All trade-in controllers must be sent to GVP FREIGHT PREPAID.
- Owners of any GVP or Commodore SCSI controllers, are eligible for an additional \$10 rebate, if they trade-in a FULLY FUNCTIONAL and working controller. These owners need to submit a certified cheque/money order for \$195 only.
- For an additional \$89, existing controllers can be traded-up to the new Series II "Hard-Disk + RAM-Card," which includes the 8MB FAST RAM expansion capability, populated with ZERO RAM.

"Let's Standardize"

GVP

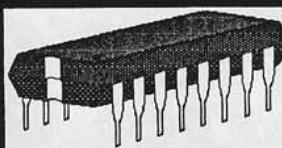
Series II, FAAASTROM and GVP are trademarks of Great Valley Products, Inc.
Amiga and A2000 are registered trademarks of Commodore-Amiga, Inc.

Distributed in Australia by

Power Peripherals Pty. Ltd. Expansion Solutions

P.O. BOX 555, LAVERTON, MELBOURNE, VIC 3028 AUSTRALIA
PHONE: (03) 369 7020 FAX: (03) 369 7020

Ram Rumbles



Commodore in the Media!

Once again our loyal readers have been busy spotting Commodore in all sort of places. To you people who have continued to send letters of sightings, we thank you from the bottom of our processors.

► **Sixty Minutes** - our first spotting this month comes from Angelo Orsini of Mildura. According to our eagle eyed observer, *Sixty Minutes* ran a story on a man called Terry Wiles (we think), who sadly has no arms or legs. He does have feet and toes - enough to operate the Amiga 500's mouse and keyboard, which came into clear view during the story. As Angelo says, "it just goes to show, anybody can use an Amiga." It's great to see people with physical disabilities having a go at all kinds of things!

► **Quantum** - Mark Cowan of Newcastle reports the weather analysis program showed on *Quantum* recently was spectacular. The pictures were ported to an Amiga 2000 were they were replayed at 25 frames per second. Later in the show an Amiga 500 did the same job in the studio. Impress stuff!

► **C64 on Newsweek** - Tricia Scott of Julia Creek informs us *Newsweek* recently showed a C64 doing wordprocessing. Look like our old friend is still getting a bit of publicity after all!

► **Multiple Spotting** - one of our readers, a Mr Allan Mamo of Wentworthville, has been very busy scrutinising television for the Commodore logo. On channel two, Allan saw during a segment on communications on an education show, the screen from a 1084S displaying a screen from Megadisc four!

In the movie *A night on the Town*, in Brett's bedroom we see a C64c in the scene where the babysitter comes in to say goodbye to Daryl, his younger sister and friend.

Last of all, in Wentworth Mall, Wentworthville, a hairdresser is using what looks like an Amiga (a 1084S is the only hardware in view), to drop hair styles over your digitised face! Sounds great...

► **Application of the Month - Amiga does TV Cartoons!** - During a visit to Adelaide television station AD-10, Roger Blieschke of Elizabeth Vale, SA noted a room marked Animation. Closer inspection revealed the Amiga 2000 was a major part of the setup along with digitising software and assorted software. Although primarily used for experimentation, the Amiga along with *Fantavision* has been responsible for the production

of the children's cartoon *Bubble Boy*. The production is shown nationally - any reports from readers who have actually seen the end result would be much appreciated.

Thank you to all who contributed again! Happy spotting...

Police clamp down on pirates

Action against piracy is increasing. The following report appeared recently in the Advertiser:

"Federal Police have cracked a major computer software piracy racket operating in Adelaide. Three men are likely to be charged with copyright offences as a result of the operation, which has interstate and overseas links. In the past month, detectives have seized five computers and thousands of floppy disks in separate raids on Adelaide homes."

"The investigations began six months ago after Federal Police in Adelaide received information about a group pirating personal computer software."

"The officer in charge of the investigation, Detective Constable Rick Irvine, said the Adelaide group has been obtaining the programs from overseas pirating groups and copying and distributing the illegal material within Australia."

"Det. Irvine said the programs were distributed within a closed community of users throughout Australia. Such programs vary in cost from \$40 to \$600."

Pirates advertising charged!

Questor, a large distributor of entertainment software have also been busy chasing the pirate problem. On 25th May 1990 a search warrant was executed by members of the Australian Federal Police on a premises in New South Wales where a large quantity of copied computer software for which Questor has Australian distribution rights was seized as a result of this action.

The "pirate" was interviewed by the police and admitted copying and advertising for sale the infringing copies. He was subsequently arrested and charged, and appeared in the Wollongong Local Court where he pleaded guilty.

The offender was fined a total of \$1,100 and an order was made for the destruction of all material that infringed copyright.

Piracy doesn't pay!

Update

INCREDIBLE!!!

Even though I know that AMOS is without doubt the best product ever released for the Amiga, I have been totally astounded by the quantity we have already delivered in Australia. Membership in our Club is already over a thousand and I have yet to have a call from an AMOS purchaser who has not indicated just how thrilled they are with this new product. I honestly believe that if you own an Amiga but don't own AMOS, then you are only getting half the value that you should be from your Amiga. We already have some 14 PD disks that have been written for AMOS, and I am sure that there are many more to come.

I guess this is as good an opportunity as ever to remind you that another way to get a lot more out of your Amiga and its peripherals is to get hold of any of the great range of Abacus books for your machine. These include such titles as *TRICKS & TIPS*; *AMIGA DOS INSIDE & OUT*; *DISK DRIVES INSIDE & OUT*; *DESKTOP VIDEO*; and many, many more. If you don't have our full list of these Amiga books together with our very wide range of Amiga software, then please ring us on (02) 748 4700 or 008 227 465 if you live outside the Sydney area.

For you C64 owners, we also have a number of books including *PEEKS & POOKS*; *ADVENTURE GAME WRITERS HANDBOOK*; *TRICKS & TIPS*; etc; and you too can call in to become a member of our Up-date Club on the above numbers.

By the way, we have recently released some great new games and business products for the two machines - *REMOTE CONTROL*, *MAZE MANIA*, *SECURITY ALERT*, *CERTIFICATE MAKER*, and *GEO PUBLISH* - (a most sophisticated desktop publishing programme) for the C64. For the Amiga we have *DATASTORM*, *VORTEX*, *HYPERRACTION*, *PARIS/DAKAR*, and the brilliant new *"GRIDIRON"*. For those of you with naughty minds (like mine I admit), we also have *SEX VIXENS* and *PLANETS OF LUST*.

AT LAST!! For those of you who have waited so patiently the great news is that we have finally got more stock of the *CAMERON* Scanners, both Black & White and Colour. However, we didn't get that many, so if you do want to get hold of one, I suggest you place your order with your local retailer A.S.A.P.

Advertisement



THE HIGHEST PERFORMING
SCSI AND RAM CONTROLLERS
FOR THE AMIGA 2000 AND 500

SERIES II

Over 900KB/sec transfer rate on a standard AMIGA 2000. 1.5 MB/sec transfer rate with a 68030 accelerator.

SERIES II A2000

40MB Hard Disk + 8MB RAM Card (0mb)

\$1,295

SERIES II A2000

40MB Hard Disk Card

\$1,189

Pacific
MICROLAB
COMPUTER CENTRE

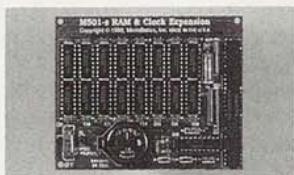
PH: (03) 670 1533
FAX: 602 4776

SERIES II A500

40MB Hard Disk + 8MB RAM all in a new slim unit

\$1,395

MICROBOTICS M501-S

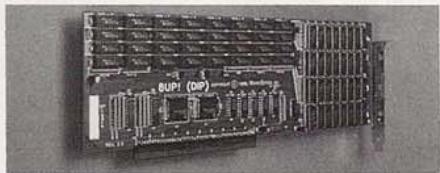


Half a Meg, Clock and Switch

- 100% compatible with the equivalent Commodore part.
- Its built-in switch allows you to shut it down without having to uninstall it when ill-behaved software expects no more than 512K in your Amiga.

\$159

MICROBOTICS 8-UP



Maximum Memory In One Slot

- Install 2,4,6 or 8 full Megabytes in one slot
- Important to BridgeCard and 2620 users who need 6MB to max their systems.
- 8-UP is a power efficient (Less then an amp) zero wait state, AUTOConfiguring design.

with 2 MB \$595

AUDIO ENGINEER



Peter Norman, the author of Audiomaster 1 and 2 has gone a step further with the writing of Audio Engineer. This outstanding Australian product now includes the following features :-

- MultiLoop facility - like a digital sequencer
- Compression of sample files
- Stereo oscilloscope display
- Echo, delay and flange effects in real-time
- Hand draw wave forms
- Special effects
- Use up to 8MB RAM for sampling
- A full screen CD player - load and play up to 20 Sound files
- And many more features

\$189

Also available is Audio Engineer Plus. This includes a State-Of-The-Art stereo digitizer from GSOFT.

\$399

12 MONTHS WARRANTY ON ALL PRODUCTS

ITEM	FORMAT	QTY	PRICE

Name: _____

Postage

Address: _____

TOTAL

State: _____ P/Code: _____

Postage:
surface within Vic \$3.00 per item
surface outside Vic \$5.00 per item

Card type: _____

Card No: _____

Expiry: _____

Signature: _____

POST TO: PACIFIC MICROLAB, 277 ELIZABETH ST, MELBOURNE, VIC 3000

Notepad

Just Imagine! - Silver Turbo

Imagine is the next generation in rendering and animation systems for the Amiga. With *Imagine*, a complete rewrite of *Turbo Silver*, it will be possible to perform functions on the Amiga that have until now been left to much larger platforms. With the use of 24 bit rendering techniques, Amiga owners can now compete in the world of professional animations at much lower cost than has been available to date.

Features include Full QUAD View Editor which allows each view to be expanded for full screen use as well as zoom in/out functions. Forms can manufacture an object from the cross sections of the different isometric view of any object by the use of 2D drawings.

The Detail editor allows you to manipulate in great detail any and all of the faces, edges and points of each object created in Forms or Detail. The Detail editor also allows the

use of Boolean Math functions to create even more unique and interesting objects.

The Animation Editor allows you to have complete control over every aspect of the animation capabilities of the system. To date the majority of systems allow for only simple "Geometric" movements. *Imagine* goes many steps further in the inclusion of new techniques providing life like motion.

Cycle creation and the use of a simple stick figure with joints and segments, the user can create human like qualities using true Key Cell function. All one has to do is to move the segments where they should be in the next chain of the movements scheme and *Imagine* fills in all of the gaps or "In-be-tweens". This technique is much like those used by animation studios which incorporate hundreds of artists to perform the see functions.

Imagine treats each object as an actor, each set of animation cycles as a movement and

puts all of these features together on the STAGE. The movement of all objects and metaphor of using the Theatres as the basis for *Imagine* makes using *Imagine* much easier. The main problem with most systems that use 3D as their basis is the complexity of the user interface. In the past the user could spend hours of time just creating a simple Walk Cycle, moving this actor around his 3D space was even more difficult.

Imagine breaks the bounds of normal movements techniques by letting actors move around the stage, interacting with props, other actors and the 3D world at large. The user does not have to worry about cell count or any other aspect of the animation. Simply tell the actor where to go and what cycles to use, *Imagine* does the rest.

Object features include morphic change, animation of all attributes of the object including colour, specularity, texture etc. Full IFF wrapping capabilities both in 12 and 24 bit mode are also included as are texture mapping and complete control over colour specularity, roughness refraction and reflection size/scale.

Editor features include easy access to any and all points, faces and edges and single IFF bit plan extrusion.

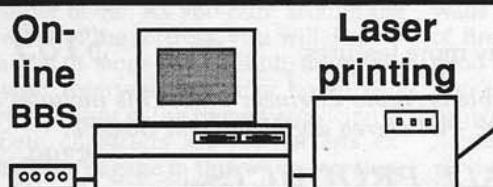
Real time rotation, scale and zoom in/out in any screen are also available. Rendering methods are 12 and 24 bit, colour or black and white wire frame with hidden line removal, primitive solid modelling, complete solid modelling and full trace modelling. Watch for *Imagine* in Commodore dealers over the next six weeks. For further information contact Computermate on (02) 457 8388.

Amiga City

A new importer of Amiga products has opened his doors in Australia. Amiga City will be distributing Tangent 270 - Clip Art; Central Cost Software - Mac-2-Dos, Dos-2-Dos, Quarterback; Micro Momentum - Various Software; Moonlight Development - Mean 18 (Golf) Course Data Disks; Silver Software - Various Software; ASDG Incorporated - Dual Serial Board.

Any enquiries to Ian Granshaw, Amiga City, Box 6069, Townsville Mail Centre 4810 Australia. Telephone (077) 72 3372.

AMIGA BUREAU



Desktop Utilities

- 300dpi postscript laser & colour separations
- Amiga software distribution & support
- File conversions Amiga/IBM/Mac/Atari/C64
- BBS for prices, news, files; set dial 60 secs
- DTP, graphic art & scanning services
- Major Amiga packages supported

Desktop Publishing - File Transfers - Software

Australian distributors - RRP prices inc. tax - ask your dealer or call us

Consultron

CrossDOS 4.0 new version \$60 The MS-DOS & ST file system for the Amiga. Access disks directly from Amiga applications & utilities.

CMF Software

Contact \$60 Memory-resident contacts manager; phone dialling, address printing (incl. PostScript), clipboard support & A-Rexx port. CalcKey \$30 Memory-resident calculator; Type facility to send results directly to your application; has binary, hex, boolean, square, sqrt etc.

PO Box 3053 Manuka ACT 2603

Message Line: 06 - 239 6658

Bulletin Board: 06 - 239 6659

Facsimile: 06 - 239 6619

ASDG

Professional Scanlab \$1400 interface card, cable & software for Sharp high resolution colour scanner. Dual Serial Board \$355 connect & use 2 serial devices at once.

RESEP 24-bit colour for PPage \$80. Facc II disk accelerator \$45. Cygnus Ed fast text editor \$135. The Art Department \$120. Fast new 24-bit image processing software.

For details and prices call our BBS or ask for our leaflet. We are on line most hours / 7 days. Dealer enquiries welcome.

Professional Draw 2.0

Premier illustration package with new features, including:

- Up to 5 times FASTER than v1.0
- Autotrace: Convert IFF Bitmap images to structured graphics
- Text Along Curves
- Blend colours and objects
- 1000-Colour Dithering
- High resolution, smooth output
- AGFA Compugraphic Outline font technology built-in

\$275.00

Professional Page 1.3

Professional DTP software with:

- Precision typography control
- Flexible page manipulation
- AGFA Compugraphic Outline font technology built-in
- Full colour quality control
- High resolution output--from any printer--without the jaggies
- Colour separation capabilities
- Importing of IFF bitmap images and Professional Draw clips

\$299.95

PageSetter II

Low cost desktop publishing package featuring:

- Structured drawing tools
- Support for AGFA Compugraphic fonts
- Importing of IFF bitmap graphics or Professional Draw clips
- High resolution output from any printer without the jaggies
- Support for most Amiga word processors

\$179.95

NEW PRODUCTS! LOW PRICES! FROM GOLD DISK

Gold Disk Office

Five fully integrated business packages in one, including:

- *Office Page*, desktop publishing
- *Office Calc*, high performance spreadsheet
- *Office Graph*, presentation graphics
- *Office Write*, ultra-fast word processor
- *Office File*, an easy-to-use database

\$399.00

Also available:

- OUTLINE FONTS: Professional fonts for all applications
- PROFESSIONAL PAGE TEMPLATES
- STRUCTURED CLIP ART
- COMICSETTER: Comic strip designer
- MOVIESETTER: Video compatible animation with stereo sound --"the animation program to have" (AMIGA WORLD, April, 1989)

Gold Disk Type

A new collection of professional outline fonts, providing you with:

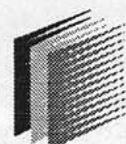
- Four custom packs of three fonts each: Publisher Pack, Designer Pack, Decorative Pack and Video Pack
- over 140 new type styles from which to choose
- Designed for PostScript, ink-jet, and dot matrix printers

\$79.95

Committed to Australia

Gold Disk is pleased to announce the appointment of Dataflow Computer Services as our exclusive Australian distributor. That means you'll get the quality and service you expect at the prices you need. To upgrade from previous versions of Professional Page, PageSetter, or Professional Draw contact Dataflow Computer Services Pty. Ltd., 134 Barcom Avenue, Rushcutters Bay, NSW 2011, Tel. (02) 331 6153.

This ad was produced exclusively with Gold Disk software and the Amiga.



GOLD DISK

PCM COMPUTERS

VDrive70	70 Meg A500 Hard Disk Drive - ST506 28mS NEC mech.	\$1250	AMIGA 500	A500 Computer system with 1 Mb RAM	\$940
	64K RAM buffer /FFS. Formatted, installed, ready to run.			ChipRAM/FastRAM switchable. Full warranty	
Very fast, non-autoboot, external power. 12 months warranty.					
1.2/1.3	Mod to install Kickstart 1.2 and 1.3 in A500's/A2000's	\$60	A500	Monitor stand all-steel	\$40
1Mb	Convert your A500 to access 1Mb chipRAM. REV.6. A500	\$30	EPSON	LQ-400 10" 24-pin 360 dpi hi-res 180cps printer	\$530
ChipRAM	Switchable 0.5M/1Mb	REV.5. A500 \$110	EPSON	LQ-550 10" 24-pin 360 dpi hi-res 180cps printer	\$620
256x1 RAM	RAM chips 41256 - 256K x 1 150ns - min qty. 16 each	\$2.20	DISKS	with push tractor / paper park / semi auto-load	
GVP	PCM supplies the full range of GVP products including			3.5" DSDD box of 10	\$12
RANGE	all hard drive systems, tape drives and accelerator boards.			5.25" DSDD pack of 10	\$5
VDrive5.25 5.25" Ext. Floppy Drive	\$230		PD Disks	Public Domain Software - per copy (excl. disk) each	\$2
70cm 12mm round shielded cable, DB23's, Pass-Thru,				over 500 disks to choose from.	
Drive disable and write protect switches. 12 months warr.					
			PCM501 A500 0.5 Meg Expansion	\$120	
			0.5 Meg expansion board to suit A500 expansion		
			slot. Compatible with A501 but without clock.		

Power Copy - The Ultimate Software/Hardware Copier

Guaranteed to back up all your original software eg Zoom, Dragons Lair, Garrison just to name a few. This package consists of a 5.25" disk drive with variable speed controller, power copy software and full documentation and is available now only at PCM for **\$300**

PO Box 70 Noble Park, Vic 3174 Fax or Ph. (03) 701 0343, 2/28 Ashton Rise Doncaster East, Vic 3109, Fax or Ph. (03) 841 8889, 34 Kidman Court Thornlie, WA 6108, Ph (09) 459 0609, 34 MacDougall Road Golden Square, Vic 3555, Ph (054) 416 277

Quartet - the Digital Music Machine

Quartet transforms your Amiga into a four voice polyphonic synthesiser and four track recorder. No special hardware is required.

You compose music on the four scrolling staves via mouse input, Amiga keyboard or MIDI instrument. The program comes with 100 musical instruments and sampled sounds can be imported.

Up to 16 instruments can be held in memory at one time. You can compose drum

and rhythm tracks, and then add synth melodies on the remaining channels.

Samples can be played polyphonically over three octaves from the Amiga keyboard or MIDI instrument.

As you record a track, *Quartet* plays back the other three channels simultaneously. You can free up any sound channel so that as music is being played you can accompany it with your chosen sample, via MIDI or from the Amiga keyboard.

Watch for a full review soon. Distributed by Computermate (02) 457 8388.

Disney launches CEL Animator

The *Animation Studio*, newly released from Disney Software, includes three disks and all the software tools you'll need to create exciting cel animation. Judging from the included demo reels, the package is very powerful, and totally capable of producing some very professional results. Good solid documentation and the Walt Disney name should help sell a lot of studios to animators.

The disks included are the Studio Disk, which provides sample animation including a library of cartoon sound effects. The Morgue Disk includes actual drawings and animations cels from Disney classics. The Demo Disk features a full colour scene of Donald Duck to illustrate the powerful features of this software. Available soon through Computermate (02) 457 8388.



MS-DOS and Apple developers look at the AMIGA!

Last Christmas, Commodore embarked on what was the most ambitious television advertising campaign yet for their Amiga computer. The TV commercial was, to say the least, a testament to the Amiga's versatility and quality, because it was produced entirely on the Amiga.

The commercial had a dramatic and rather embarrassing effect. Immediately before Christmas, it was almost impossible to buy an Amiga computer in Australia.

However, that is only half the story. There was another quite unexpected result. The broadcast quality graphics and animation obviously had an impact on many software developers.

Commodore report several major MS-DOS and Apple software developers calling the company asking about market size and installed base of the Amiga. They may be surprised to see just how good the software we have is - but it would be nice to see some of the traditional software players in the Amiga market.

COMPUTER PRODUCTS

IBM EMULATOR FOR A500

External Slimline disk drives, with switch, 12mths warranty, for Amiga \$199.

Memory Boards in stock from \$180.

Starcursor joysticks \$54.00.

All Pactronics and ECP products available. New Abacus Amiga manuals in stock.

Quality Computer and printer accessories.

Latest Amiga Magazines, Australian Commodore and Amiga Review, other overseas publications and software available.

Bi-monthly Amiga workshops. Next meetings on Sunday 7/10/90. Ring for details.

Mail and Phone orders welcome

WHITE'S COMPUTERS

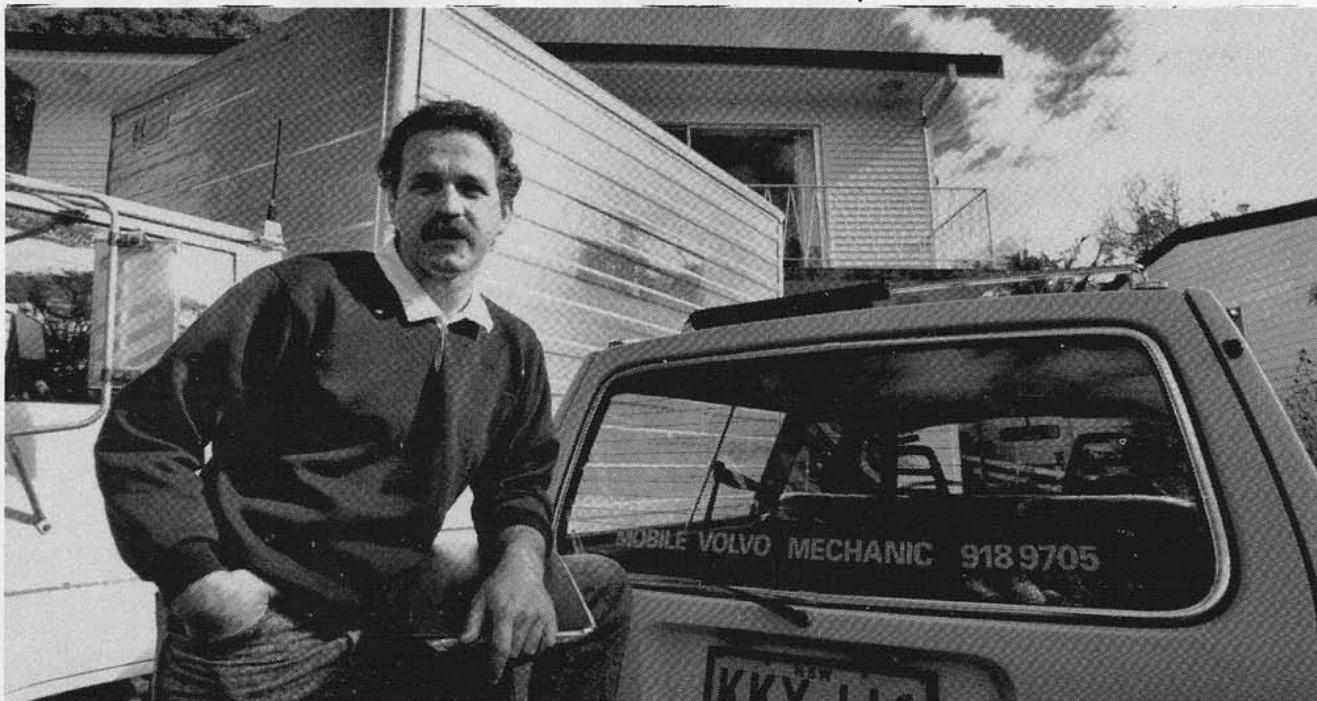
"Service is our motto"

(02) 634 6636

37 Daphne Ave. Castle Hill 2154.

Bankcard/Mastercard/Visa Welcome

"When I set up on my own, the first thing I did was get a top accountant – for \$395!*"



When John opened his books as a mobile Volvo mechanic, he did it with EasyLedgers, the friendly Amiga accounting package.

John needed a straightforward, but powerful program that would handle up to 700 regular customers, with all the quotes, costings and associated paperwork. No wonder he chose EasyLedgers!

EasyLedgers offers:

Ledger Book

This automatically updates figures entered in sales, purchases and inventory. It tracks current month, year-to-date and last year's figures. It provides balance sheet, trial balance, income statement, and account histories.

Purchase Book

Permits tight cash control. It automatically updates the in-

ventory and general ledger when purchases are entered. It prints mailing labels, transaction histories, supplier lists and journals.

Job

This handles labour, purchases, materials and subcontracts. It provides automatic costing and charging, letter or commercial style bills.

Sales Book

This tracks full or partial payments and automatically updates inventory and ledger accounts. It prints invoices, credits and statements, and offers an optional sales message on customer invoices.

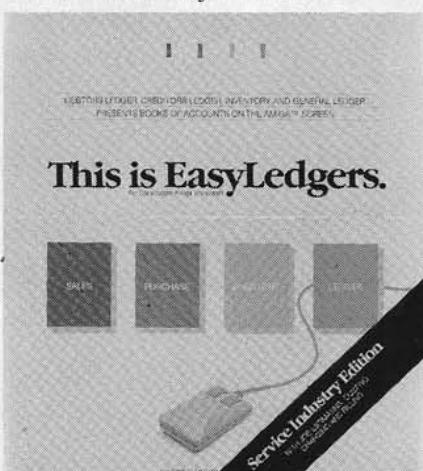
Inventory Book

This offers three price scales with automatic update facilities. It uses the weighted average cost method and automatically posts to ledger accounts.

Hardware

An Amiga with 1 megabyte of memory and an 800k disk drive.

* Service Industry Edition \$549.00



dataflow
Bringing you the Best in Software!
Computer Services Pty. Ltd.
134 Barcom Ave, Rushcutters Bay, NSW 2011
Ph. (02) 331 6153, Fax (02) 331 3665.

EasyLedgers. Simply professional accounting

COMMODORE COMPUTER



PC Student Pack from \$1,799[†]

INCLUDES OVER \$500 OF SOFTWARE AND ACCESSORIES

Write essays, school reports and projects. Learn typing and play games. *Commodore Personal Computer* dual disk drive or 40mb hard disk system with colour monitor. Industry standard MS-DOS and 12 months warranty.

Software titles include *Bank Street Writer*, the first genuinely easy-to-use word processor; *Type*, develop your basic typing skills; *Where in Europe is Carmen Sandiego?* Geographic and historical skills sharpener; and *Karateka*, a karate game of good, clean fun. *Expert Training*, a complete step by step instructional course on audio cassettes, plus 10 Floppy Disks to get you started.



PC Home Pack from \$1,799[†]

INCLUDES OVER \$500 OF SOFTWARE AND ACCESSORIES

Keep tax records, household budgets, write letters, play educational games, prepare pie and bar charts, word processing and more.

Commodore Personal Computer dual disk drive or 40mb hard disk system with colour monitor. Industry standard MS-DOS and 12 months warranty.

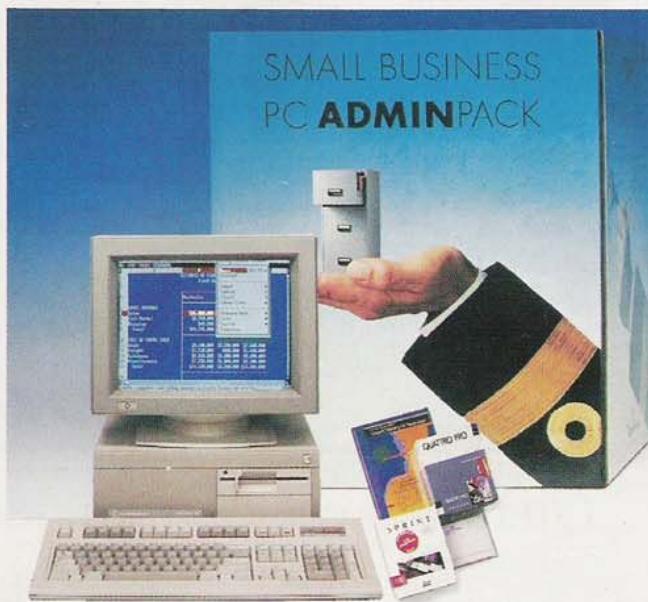
Software titles include *First Choice*; *Touch Typing Tutor*, learn to type professionally in no time at all; and *Sim City*, educational entertainment about life in the city.

Expert Training, a complete step by step instructional course on audio cassettes, plus 10 Floppy Disks to get you started.

CALL 008 023 233 FOR YOUR NEAREST COMMODORE DEALER.

*Available in capital cities & selected regional areas. † All prices quoted are RRP. Software packages offered are not produced by Commodore.

HAS THE ONE STEP SOLUTION



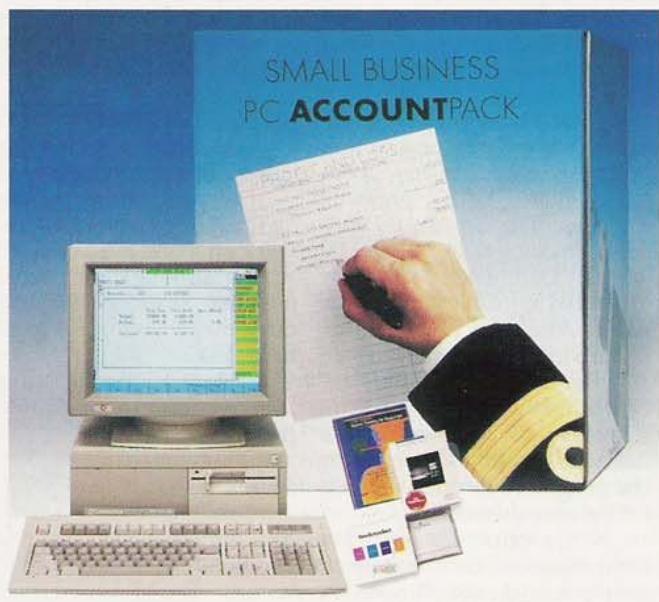
Small Business PC Admin Pack \$3,299[†]

INCLUDES OVER \$1,000 OF SOFTWARE AND ACCESSORIES

Zip through correspondence, price lists, spreadsheets; merge invoices against customer queries. Brilliant graphics for presentations. Commodore Personal Computer 40mb hard disk system with colour monitor. Industry standard MS-DOS and 12 months warranty.

Software titles include *Quattro Pro*, for quality presentations and superior spreadsheet power; *Sprint*, easy to use, fast and flexible, the powerful word processor.

Expert Training, a complete step by step instructional course on audio cassettes, plus 10 Floppy Disks to get you started.



Small Business PC Account Pack \$3,299[†]

INCLUDES OVER \$1,000 OF SOFTWARE AND ACCESSORIES

Full accounting pack with ledgers, inventory, profit/loss and invoicing. Commodore Personal Computer 40mb hard disk system with colour monitor. Industry standard MS-DOS and 12 months warranty.

Software includes *Sybiz Bookworker*, Australia's internationally famous accounting package, the complete program for keeping all your business accounting books; *Sidekick Plus*, the enhanced personal productivity system; diary, calculator, phone book, alarm and file manager; and *Expert Training*, a complete step by step instructional course on audio cassettes, plus 10 Floppy Disks to get you started.

Commodore



FREE INSTALLATION*

JSA COM 0473

Excellence! V2.0 released

User suggested refinements, increased speed and reliability are to be found in *Excellence!* V 2.0.

Typing speed is increased to 175 words per minute. A new feature has been added, Virtual Memory, which allows documents larger than available system memory.

The dictionary now contains more than 140,000 words including Legal, Medical, Scientific, Technological, Geographical, and Biographical supplements and can be edited using the Spellmate maintenance utility. The Guess option is improved and is very accurate, even with phonetic spellings. The Thesaurus contains more than 1,400,000 words. Definitions are now displayed for each sense of the word. Also, the Hyphenation feature has been enhanced.

User changes to the Page Setup Requester and the Print Requester can be saved as user defined defaults, overriding the program's internal defaults for these requesters.

NLQ Print Quality has been enhanced and now prints graphics with text. It uses the printer's internal default font for text, switching modes to print graphics. Portrait and Landscape printing orientation in Graphic and Postscript Print Qualities is supported from the Print Requester. Colour PostScript is also now supported.

Graphics are now stored in Fast Memory and moved to Chip Memory when needed. This allows an almost unlimited number of graphics to be incorporated in a document.

Inserting an *Excellence!* document into a document now retains headers, footers and footnotes and forced page breaks if these are present. The text of headers, footers and footnotes is now cut, copied and pasted along with the text in which it is embedded for more complete editing control. A new feature appears on the Edit menu that sorts highlighted paragraphs in ascending or descent order.

ASCII text files can now be inserted into an *Excellence!*

AmigaVision available

Commodore are supposed to be bundling *AmigaVision* with all A2000's any time now. In the meantime, stocks of this so-far well received product have arrived (see preview in our July issue). In essence, *AmigaVision* offers the ideal environment to de-

velop computer based training, interactive video, and simple multi-media presentations. Several local developers have already designed educational courseware for Australian geography.

No programming experience is necessary to create hit boxes or gadgets in the various shapes and sizes.

Features included Work-

bench, CLI and ARexx program support, and the ability to combine graphics, animation, digitized sound, speech synthesis and videodisc control into one program. A dbase III compatible database manager is included.

Available from Computermate Products (02) 427 8388.

AmigaVision Authoring System



The upgrade will be made available to registered users for \$59.95 (AUS) (plus a shipping and handling fee of \$5.00 (AUS)).

Excellence! V2.0 is available from Computermate Products (02) 427 8388.

MAST launches A500 4MB expansion

Memory and Storage Technology has released Quatromegs, a new 4mb Internal Memory Board for the Amiga 500. The board is user installable in the A501 slot underneath the computer. It provides a battery backed clock and calendar and allows increased memory to as much as 4.5mb.

The Quatromegs is fully compatible with both the 512K (Fat) and 1 MB (Super) Agnes chips. Using a plug-in memory board that installs in the A501 slot and a daughter board that installs in the Gary socket has made the full 4MB possible.

The unit comes with a 12 months warranty. Retail price with 2mb \$589.00, with 4mb \$869.00. Available from Memory & Storage Technology (M.A.S.T.), 19 - 21 Buckland Street, Broadway, Sydney. Telephone (02) 281 7411.

Quadrant Computers PERTH, W.A.

Amiga Accessories

KCS Power PC Board	\$789.00
Minimegs 2MB	\$489.00
6.5MB INT A500 From	\$269.00
8MB A2000 2MB POP	\$579.00
AMAS Midi + Sampler	\$185.00
Stereo Monitors (64 + Amiga)	\$475.00
GUP Hard-Drives & Mem Opt.	
A2000 04Quantum	\$1,225.00
A500 40Quantum	\$1,475.00
80Q + 40Q + 8MB Mem	Call
GVP Accelerators	Call
Microswitch for mouse	\$17.00
Replacement Mouse	\$49.00
501 Clone Mem on/off	\$140.00
3.5" External Disk Drives	\$175.00

64 Accessories

GEOS 64	\$55
GEOS 128	\$65
Turbo Load	\$39
Expert Cartridge	\$95
Action Replay	Call
Starcursor Joysticks	\$50
Zoomer Yoke	
SKC Diskettes (DSDD)	
3.5" \$17 - 5.25" \$9.95	
Printers : Star : NEC :	
Epson : Citizen	
Books - Magazines	
All Software	

Digiview 4.0	\$189	AMOS	\$120
Work, Platinum	\$199	AMAX	\$535
Amiga Vision	\$189	Action Replay	\$175
Superbase Pro	\$259	Easy Ledgers	\$375
Excellence II	\$279	Megadisk	\$18
Page stream II	\$379	Public Domain	\$1.75

Australia Wide
Delivery 3KG
\$9.00
Mail Orders
Welcome

FOR FREE CATALOGUE SEND SELF ADDRESSED STAMPED ENVELOPE - STATING YOUR COMPUTER TYPE

Quadrant



AUSTRALIA

26 Rochester Way, Dianella
PO Box 380 Morley WA 6062
Facsimile (09) 375 1113
Pager (09) 480 5254
Discovery 069005050

Telephone (09) 375 1933

Leading the Way in
Western Australia



Prepare for the ultimate fantasy

Advanced Dungeons & Dragons

Game Products come alive on your computer!

One of SSI's
best selling titles is
now available in a new
format - the Amiga



SSI in collaboration with TSR — the producer of the legendary ADVANCED DUNGEONS & DRAGONS® role-playing system — proudly presents the ultimate breakthrough in fantasy gaming: An entire line of AD&D® game products for your home computer.

STRATEGIC SIMULATIONS, INC.
1040 N. Bernardo Avenue
Mountain View, CA 94031
(415) 961-1253



STRATEGIC SIMULATIONS, INC.

ADVANCED DUNGEONS & DRAGONS®,
FOOL'S HALLS AND DUNGEONMASTER™ are
trademarks owned by TSR, Inc.
©1990 Strategic Simulations, Inc.
All rights reserved.

Available from leading computer stores

Dealer enquiries contact
Entertainment & Computer Products
Ph: (075) 963 488 Fax: (075) 963 512


ELECTRONIC ARTS*

ECP
Entertaining Australasia

excellence!**ProWrite****Pen Pal**

WYSIWYG Show Down

by Andrew Farrell

New arrivals on the Amiga WYSIWYG wordprocessing scene would have to meet a long list of features to match the latest upgrades to the big guns. *Excellence* version 2.0 has arrived, and *ProWrite* 3.0 is out. *Pen Pal*, the newest market entry arriving late last year, remains unchanged since its PAL upgrade.

How do these three popular wordprocessing machines compare, feature for feature? From the dot-matrix printer the results churn out, and often it is this criteria by which products are judged. Of course, how easily you can obtain the end copy is just as important. So let's examine both these areas now in our head-to-head wordprocessing comparison of the three WYSIWYG big guns.

What you get

Off the shelf, *Excellence!* looks every bit the heavyweight it is. *ProWrite* has a slick, sophisticated marble print on the box which gives the feeling of quality and class. *Pen Pal* dazzles with an array of documents containing graphics and fonts which make it look like one very powerful wordprocessing vehicle.

Inside the box, things begin to change. *Pen Pal* has an excellent ring bound manual, not far short of an inch thick. The layout is easy to follow, with plenty of examples, and easy to locate chapter headings on the right margins. The *ProWrite* manual is a little smaller, has fewer graphics and is not as well referenced. *Excellence!*, being a bookshelf package, is documented in a three ring binder, with protruding chapter headings for speedy location of subjects. In practice a three ring binder can be tricky to handle. Pictures liven up the explanations. Probably the only major criticism in the documentation department would have to be levied at *Excellence!* which, after so many upgrades and alterations, seems to suffer a little from discontinuity.

Pen Pal and *ProWrite* come on two disks, and *Excellence* on three. Version

2.0 of *Excellence!* is also available as an upgrade which includes three new disks and a manual addendum. It is easy to see the advantage of the three ring binder when you can make an upgrade so easily, however it is a shame that instead of replacing the pages which needed altering, Micro System Software have opted to have you refer to the Addendum for changes or make the alterations by hand.

Installation

If you have a hard disk, your wordprocessors may need to be installed. Apart from actually copying the various files and directories from the original disks, you normally need to install drivers and fonts and alter your startup sequence.

New Horizons, the publishers of *ProWrite* need to be congratulated for keeping installation simple and improving on support for font and printer driver installation. To place *ProWrite* on your hard drive, you simply move the program, dictionary and thesaurus icons to the appropriate drawer. As long as all three are in the same drawer all will work fine. Now that is how it should be. Extra fonts, and printer drivers are handled using a simple utility provided on the system disk called System Mover. Commodore should have included this program as part of Workbench!

Excellence has gone to the other extreme. An install program is provided to automatically place the relevant files and fonts in the right place. Although gadget and requestor driven, so much power is offered that first time users are likely to be overawed by the path names and file titles which can be edited. If you know what you're doing, this type of install program is great. If not, it can be a giant hassle. The manual only confuses the issues further with convoluted explanations and garble about device names.

Pen Pal is a bit clearer than *Excellence!*, but still requires the user to understand device and AmigaDOS. This type of information can easily be passed to an install program in the fashion used by Gold

Disk with *Professional Page*. They have arranged matters so that you simply click once on the install program and then with the shift key held down, double click on the hard disk drawer you wish the program to be installed in. Much simpler.

Hardware requirements

We found all three wordprocessors required one megabyte of RAM to run peacefully. You may get them to work in less, but not reliably. *Excellence!* is no longer available in a 512K version, and the manuals all recommend one megabyte. *Pen Pal* uses the most RAM (about 600K depending on the buffer size you select), followed by *Excellence!* (around 500K) and then *ProWrite* (350K).

You'll need at least two floppy drives or one floppy and a hard drive. As the *ProWrite* manual puts it, "we strongly recommend you also have a printer." We reckon you'd figured that one out.

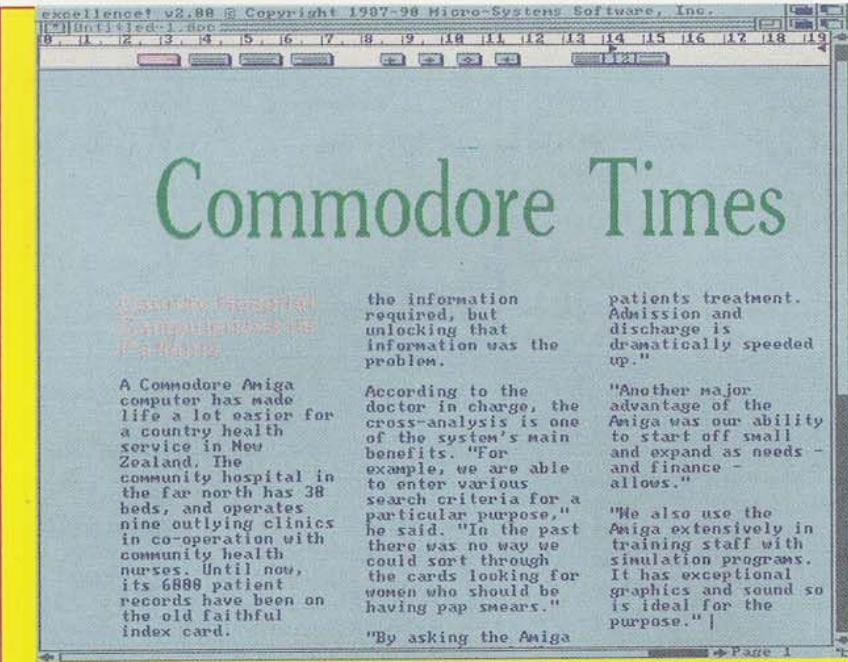
We tested all three wordprocessors on a 68030 based system and found that *Pen Pal* seemed to hang every so often. *Pen Pal* was also a little unstable on the 68000 based Amigas. *Excellence!* has the occasional problem, and *ProWrite* seemed to behave itself the most, with little or no hassles reported.

User interface

All three user interfaces are gadget and menu driven. *Pen Pal* has a large number of tools for adding boxes, lines and other decorations to your documents. It also has a unique active pointer which changes to indicate the function of the gadget currently pointed at. However, *Pen Pal* also lacks a few basics which the others have such as selecting justification from the ruler - both *ProWrite* and *Excellence!* make quick work of adjusting the setting of a particular highlighted area whereas *Pen Pal* requires you to enter the pull-down menu system. *Pen Pal* was also less intuitive in a few other basic functions, but made up for this in things like margin settings, where the margin can literally be dragged into

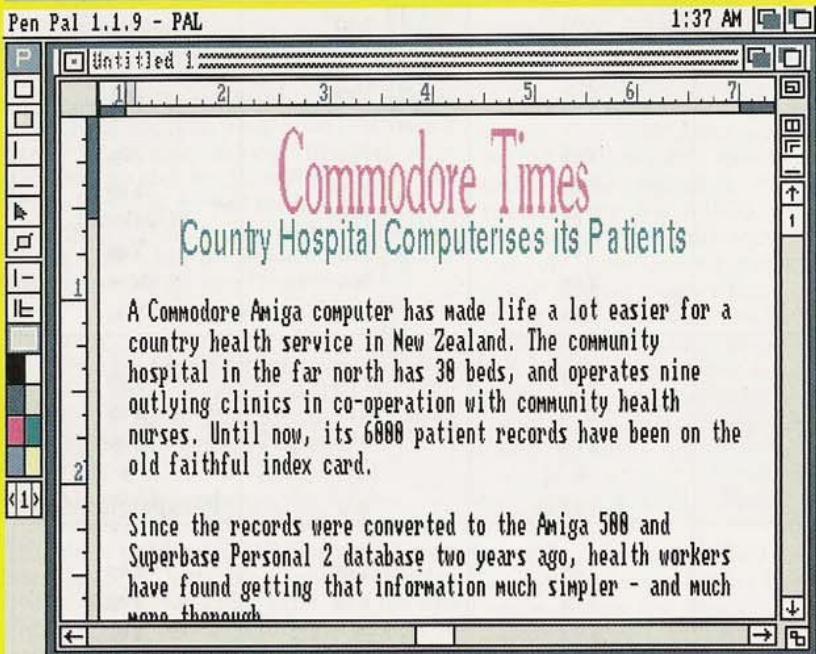
cont. on page 17

Feature Guide	Excellence!	Pen Pal	ProWrite
WYSIWYG Supports Amiga Bit-mapped Fonts Displays NLQ Equivalent in true proportions Include IFF Graphics in Documents	Yes Topaz 11 Yes	Yes unknown Yes	Yes Yes Yes
DISPLAY Maximum and Minimum Colours Interlace mode supported	2, 4, or 8 Yes	8 Yes	8 Yes
EDITING Maximum Open Documents Undo option Revert to Last Saved Keyboard Short-Cuts Macro Keys	Memory Limited Yes Yes Yes Yes	4 Yes No Yes No	10 Yes No Yes Using AREXX
FONTS Number supported Maximum Size Colour Support	250 -	200 -	unknown -
OUTPUT Preview Mode NLQ + Graphics Postscript Landscape or Portrait Print Merge Mail Merge	Yes Yes Yes Yes Yes Yes	No Yes No No No Yes	No Yes Optional Yes Yes Yes
FORMATTING Headers Footers Footnotes Columns Flow	Yes Yes Yes 4 Parallel	Yes Yes No 0 n/a	Yes Yes No 5 Parallel/Snaking
TEXT Superscripts Subscripts Variable Line Spacing Date & Time Stamp Hyphenation	Yes Yes Yes Yes Yes	Yes Yes 1, 2 or 1 1/2 Date No	Yes Yes Yes Yes Yes
GRAPHICS IFF HAM Scaling Auto-Flow Around Ragged Left or Right	Yes No Yes Yes - One Line No	Yes Yes Yes Yes - FULL Yes	Yes Yes Yes No Yes - Manual
SPELL CHECKER As you type User Defined	140,000 Words Yes Yes	100,000 Words No Yes	100,000 Words Yes Yes
THESAURUS GRAMMAR or STYLE ANALYSIS / SUMMARY AREXX	1.4 Million Word Yes - FULL No	No Summary No	300,000 Word Summary Yes
SPECIAL FEATURES Glossary Function Keys Generate Index or Contents Forms with Fill In Paragraph Sorting	Yes Yes No Yes	No No Yes Yes	No No No Yes



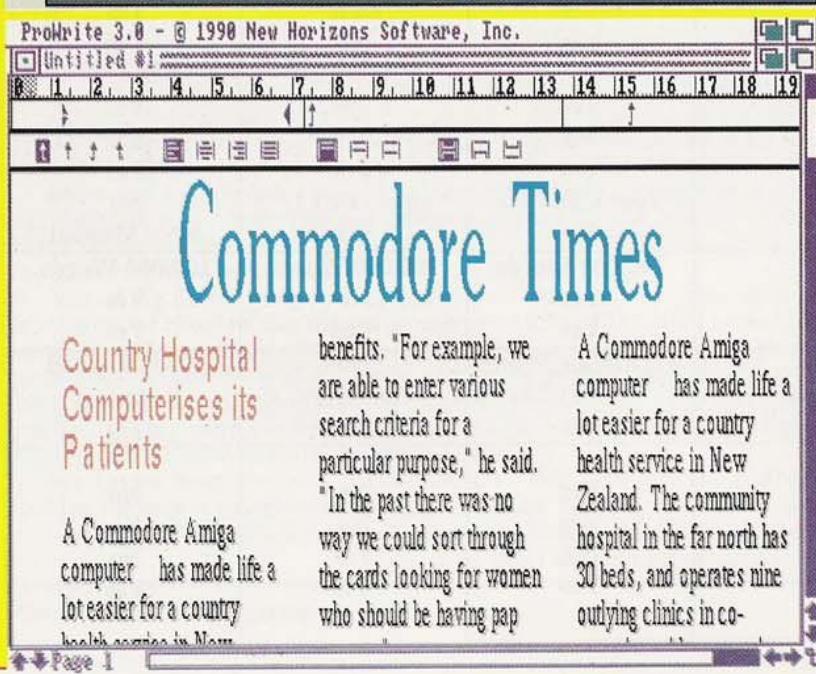
Excellence 2.0

Despite the odd bug, Excellence! is a very powerful WYSIWYG machine which when combined with the amazing thesaurus, Postscript power and style analysis, represents good value.



Pen Pal

By far the most graphics capable wordprocessor around, with some clever screen gadgets - and a smart pointer - which makes it easy for beginners. However, it is very memory hungry and lacks solid WP features.



ProWrite 3.0

Solid reliability, good useful features, poor graphics support, but a good all-round performer in most other respects. ProWrite also offers optional Postscript output.

place using the mouse.

ProWrite has a clean easy-to-follow more professional look. *Excellence!* is also fairly sharp, with version 2.0 having a number of user interface improvements including very speedy pull down menus. *ProWrite* is also fast, with *Pen Pal* clocking the slowest pull-down speeds.

Keyboard short cuts make editing much smoother. All three programs have short cuts for most edit and style functions, basic file and search or summary operations.

Important to all wordprocessor users is the speed at which you can edit, and the amount of support for moving about a document. All three programs have the standard Amiga slide bars, sizing tool and scroll arrows - although *Pen Pal*'s screen looks a lot more exotic, using its own variation on the usual clean look. This deviation will therefore not support Workbench 2.0 enhancements, and leads one to wondering what else they may have circumnavigated for the sake of uniqueness.

Highlighting a block of text using the

mouse is fast in all three packages. Double clicking a word will high-light the word in all three, and clicking a third time will select a line or paragraph in *Pen Pal* and *ProWrite* respectively. Of course, to become truly proficient, keyboard editing needs to be available to move around your document by word, paragraph and sentence.

Excellence! supports movement by character, word, line, window and document. *Pen Pal* handles all that except the window movement with the addition of sentence and paragraph jumping - very sensible. *ProWrite* handles all but paragraph movement.

Speed wise, all are fast, with *Pen Pal* dragging the chain a little. *ProWrite* 3.0 and *Excellence!* 2.0 are vastly improved in this area. They are now both good enough for even the fastest typist to use comfortably.

Document and file requestors

ProWrite enables eight documents to

be open ready for editing. *Pen Pal* offers four and *Excellence!* is limited by memory. In each case the new document was stacked down the screen enabling access to previous grab bars. A new ruler was always opened too. Obviously, the limitation of open documents may vary depending on available memory and the contents of each document.

The *Excellence!* file requestor displays directories and then files in a sorted list. You can cycle through the various volumes and four different file extensions are handled. The requestor cannot be moved around the screen once open on all but *ProWrite*.

Pen Pal has a very unusual requestor, divided up with lines and boxes all over the place. Two internal file extensions are handled as well as a no-extension file option. Directories and files are sorted as a single list. The best feature is that a list of all mounted devices appears which you can click on to select a drive - the other packages insist you cycle through each available device - painfully slow on a floppy based system - and it is easy to

Amiga 500 Turbo XT

KCS Power PC Board Available Now

\$699

Look at these features:

- includes 1 Meg Amiga Ram + clock (value \$300)
- supports all Amiga in/outputs
- 3.3 times faster than XT Bridgeboard
- includes MS DOS 4.01 + shell and GW Basic
- free software updates
- 704K memory in MS DOS mode
- installs in 30 seconds!

Phone now for a detailed specification sheet.

DEMONSTRATIONS AVAILABLE DEALERS REQUIRED

Official Distributor for KCS

Fonhof Computer Supplies

64 Cross Street, Baulkham Hills NSW 2153
Phone (02) 639 7718 Fax (02) 639 5995



Shop 9-15
(entrance Akuna Lane)
Mona Vale NSW 2103

Phone: 99 4441
A.H. 411 2081

AMIGA 500 - AMIGA 2000 COMMODORE COLT - PC 10 SOFTWARE - HARDWARE COMPUTER ACCESSORIES

AMIGA VIDEO TUTORIAL FOR BEGINNERS
FEEL AT HOME WITH YOUR NEW AMIGA

COST \$29.95

HINTS & TIPS

LEARN HOW TO BACK-UP
COPY - FORMAT DISKS - SAVE - LOAD

MAIL ORDER FORM
BANKCARD/MASTERCARD/CHEQUE/POSTALORDER

NAME:

ADDRESS:

PHONE: PC:

PAY BY CHEQUE: B/C: M/C:

P/ORDER: CARD NO:

EXPIRY DATE:

SIGNATURE: DATE:

shoot past the device you want on a hard disk based set up.

ProWrite divides the whole display up best, and is probably the simplest to use requestor for the beginner. *Excellence!* is more powerful and best for the more advanced user.

Setting up your page

This is a vital part of using your wordprocessor. Wrong settings can mean your page will not print correctly, will not fit on the page, or may creep up or down a line or more over multiple pages.

ProWrite and *Excellence!* have a single menu for page setup with *Excellence!* offering the most control. In both packages you can also select up to five columns and with an editable gutter width between them all - ideal for newsletters! *Pen Pal* does not offer columns. Margins are set using on screen gadgets.

All three programs handle headers and footers, with *Excellence!* also offering footnotes. *Pen Pal* has the easiest editing of these areas - you just click above the top header margin and start typing. The other two use a select view option to select which area you edit.

Fonts

All three programs handle any Amiga bit-mapped font. *ProWrite* will also work with its own special screen fonts designed to look exactly like the variations on most in-built NLQ printer fonts which are available. *Excellence!* sticks to topaz 11 for NLQ work, however it has full support for Postscript output - something which *ProWrite* only offers as a separate option which then cuts out a lot of other useful formatting facilities. Although *Excellence!* included Postscript fonts look horrible, you can also use the Adobe or Gold Disk metric fonts. A small conversion utility facilitates this, and the results are fantastic, making *Excellence!* the only full Postscript wordprocessor on the Amiga.

Excellence! displays all its fonts as one giant list. This can become cumbersome if you have hundreds of fonts on your systems - like I did. The maximum number of accessible fonts is limited by the most options which may be displayed in a pull down menu (250 including point size). This can mean that not all the fonts listed in the pull-down are accessible - however this is only a problem in extreme situations. The trick is to isolate fonts you wish to use in *Excellence!* and put these in a separate directory which

you assigns FONTS: to before using *Excellence!*. If you alter the Adobe or Gold Disk metric files you'll need to do this anyhow.

Pen Pal (up to 200 fonts) and *ProWrite* access their fonts using a requestor like a file requestor. This method is a little slower - although with *ProWrite's* font short-cut it is quite intuitive.

Graphics

Support for IFF graphics varies immensely. *Pen Pal* offers the world, whereas *ProWrite* barely scrapes through. *Excellence!* gets by with a halfway effort - which is enough to make it usable. Best results in printing graphics require the right kind of graphics - if you're printing black and white, use black and white images.

Pen Pal converts IFF's to a display format that is supposed to be close to what the end result will look like. Text can be made to flow left or right around the graphic, with either ragged or straight margins. Graphics may be sized and positioned easily. Overall, if graphics are high on your list, *Pen Pal* wins by a long mile.

Excellence! will allow only one line of text next to a graphics. The image may be sized. The one line flow around is automatic. In *ProWrite*, things get really bad. In essence, you've got to make text go around the graphics using TABs and margin settings - very clumsy. So, whilst this takes a lot more work, the end result can end up as good as *Pen Pal*.

Spelling/Thesaurus

Excellence! is king of the spell checking world. It has a 140,000 word spell checker and 1.4 million word thesaurus. *ProWrite* is close behind with a 100,000 dictionary and 300,000 thesaurus cross-references. *Pen Pal* does not have a thesaurus, but has a 100,000 word spelling checker.

All three programs handle both phonetic and transposed spelling problems, although *Pen Pal* does require an extra step to reach the amended word. In the thesaurus department the gap is a lot wider. Although *ProWrite* offers a very long list of synonyms, divided into grammatical areas, *Excellence!* provides a full explanation of the word, along with a long list of synonyms and antonyms - a real educational program! Furthermore, *Excellence!* offers complete grammar and style analysis too... the complete writer's tool.

Printing

I tried producing a simple three column newsletter on each wordprocessor. *Pen Pal* stopped dead a few times, and couldn't handle the three columns, although the extra graphics made for a few impressive pages. *Excellence!* and *ProWrite* were both on par, both handling multiple columns, placing the newsletter titles as large as required in the header and printing out comparative results at the end of the day.

Excellence! was able to go the step further to Postscript output, and offers superior features in areas such as generating index and contents lists automatically. With a little trial and error most print problems were overcome, although there seemed to be some bizarre solutions to some of the problems we ran into more on that in future issues as we take a look at getting the most out of each package.

Summary

All three wordprocessors would make their owner very happy. Keep in mind that for purely text preparation with no formatting or for text preparation for desktop publishing, you would be best not to use any of these three, but use instead *Transcript* - a purely text-based word processor from Gold Disk. However, where WYSIWIG formatting is important, and the extra editing facilities of *Excellence!* would come in handy, it stands alone as the heavyweight all-round wordprocessor. For a cheaper solution to the same requirements, with a pleasing look and feel and absolutely rock-solid reliability, *ProWrite* is the answer.

If you're trying to produce a graphics orientated publication in colour, *Pen Pal* has a lot to offer - but it is a little unstable and somewhat cumbersome over some menu areas. For an extra \$100 you could buy *Pagestream 2.0* and enjoy far more sophisticated graphics and much better quality output. There are a few nice redeeming features, such as the in-built list manager, form editing capabilities and colour font support. These features are useful, and make *Pen Pal* good value for money. So, it's up to you. To help you decide better, we've prepared an exhaustive comparison chart.

System 3

by Kevin Carpenter

I buy gadgets. I go to Hong Kong and Korea a couple of times a year. I scour trade shows and derelict factories for bits and pieces that handymen and high powered executives will buy. They hide them in garage drawers to collect dust. I barter with wizened Asian gentlemen and hard-nosed Malay factory owners to get good prices.

American Express once put one of my gadgets in their winter catalogue. It is now a mandatory Yuppie possession.

After two years of trading I have a stock list that runs to 327 items. I have about 75 regular customers. Until recently, I have had 24525 (327 x 75) headaches. I needed a good accounts program. I bought *System 3*. Why? I will tell you.

When I gave up my job packing ping-pong balls to become an entrepreneur my wife refused to do my accounts. Unperturbed I went to Penfolds and bought a foolscap Warwick Analysis Book and began a long series of late nights. I also began looking for an accounting package that would suit my needs.

I wanted a program that would take most of the tedium out of stock control. I needed something that would greatly reduce the time I spent preparing statements and invoices and maintaining accounts. Most important of all I needed to know my cash flow.

As a side point I wanted to have the option of entering special categories like consulting time, labour, postage and packaging etc.

Of paramount importance I wanted a program that was simple. A program with a manual the size of comic book, not the *Encyclopedia Britannica*.

I bought *System 3*.

This promised to be the answer to most of my dreams. And it was only the cost of two Ornate Hand-carved Oriental Chopstick-holders, it did not break the bank.

It was simple. *System 3* comes on one disk. Takes two minutes to install. Can hold up to 999 stock items, 99 customers and 99 accounts.

System 3 disk icon opens to reveal two modules, Sales/invoicing and Cashflow. Getting started with Sales/Invoicing is as easy as opening a Transcript window. On screen appears a blank workbench window with a menu bar. The options are, Projects, Options, System, Transactions and Report.

Starting off I chose the Project - Create a New File and left the computer for about 45 seconds while it did the necessary I don't know what (or care what!) on my new data disk.

At the return of the arrow I could start adding stock records. Each stock item can be given a code. Indeed it is highly valuable if not imperative that this be so, as I discovered. Once your stock or even a small portion has been entered you can go to making money. However, this requires customers.

Creating Customer Accounts. Again everything is simple and one merely fills in the blanks. Each customer can be given an account number (again you will see

why this is so good).

Next, I entered the Company details. My company. This is what will appear on your statements, accounts and invoices. So be careful in case you let the wrong people know too much about yourself. If you run several companies or operate under different trading names it will be best to set up a data file for each.

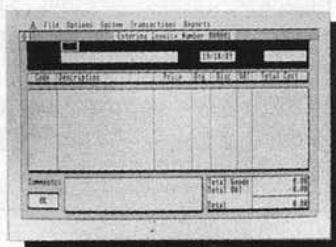
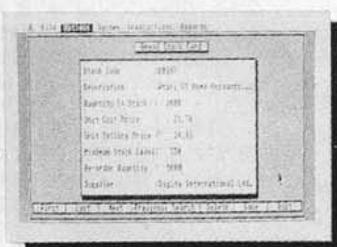
Now having both stock and customers it is a simple case of bringing the two together. Dealers ring in or fax their orders through the week. On Tuesdays and Thursdays, after macrame classes, I bundle all their orders and the courier man picks them all up. Before *System 3*, I spent the rest of the week writing out my invoices or trying to get my \$799.00 accounts package to do this for me, and failing.

To my delight *System 3* prints each invoice as it is typed in from the order. The invoice can be used as a delivery docket as it has provision for an address to be included on the printout. Now I can send invoices with the orders. I save about \$18.74 a week on postage stamps.

Of course at least once a week someone wants a price list. To get one of these I no longer have to photocopy a hurriedly amended version but now simply call up a price list from Report and select printer for the output. For over the phone quotes the report can be output to screen. Simple.

Then I get Mr John M. Finch-Hatten of P O Box XYZ, Cootamundra Back of Bourke, who wants a quote for three "Personally selected, Yum Cha Dynasty, Samuri Sword Holders, also personal introductions to at least one former owner and detailed history of each". This requires a lot of research and head-scratching to come up with a believable price and a lot of head scratching to come up with a wizened oriental gentleman to whip them up for me.

Again *System 3* will produce a quote by calling on Transaction - Enter Quotation. With special entries such as Consultants Rates and One Off Items in my stock list there is no drama. Mr John M.



Finch-Hatten could be the proud owner of his what's-it for the amazing, unrepeatable price of \$1,299.00 within a good 45 seconds.

Special messages can be included on your quotation, invoice or statement for such occasions. I told Mr John M. Finch-Hatten that he was jolly lucky. I just happened to pick up four of these sword holders last time I was in Japan and no more were in existence.

Would you believe he ordered them!

Would you believe I sent an invoice with the order and he paid within seven days? Well 30 days anyway.

The rest of my customers, awed by my efficiency and the polite notes I included on their overdue statements began to pay up immediately. I discovered several people who owed me money, that I would have otherwise forgotten about, and included polite threats on their invoices too.

By the end of the month I was able to use the Report facility for an End of Month summary. I had a printed copy of

every transaction and a tax summary for my accountant. This erased all transactions for the month and simply maintained a current balance for the month.

I was also able to get a Debtors Summary which provided me with a report on all customer accounts with current balances and a total figure for debtors. My wife now thinks my gadgets are wonderful.

Optional warning messages come in handy for falling stock levels. These are adjusted automatically as the orders are filled in. By experience I set these to what I felt were reasonable limits and didn't have to keep guessing at what my orders should be. There are several different options that can be selected with regard to warning messages from the Options - Preferences menu.

Spurred on by my new efficiency I even risked a stock-take. A very simple report listing product code, product description and a blank space for the quantity came churning out of my now over-worked nine-pin printer and gave me a very enjoyable wet Saturday afternoon's work indoors.

As payments arrive I enter each one on its account number. (As you type in an account code, or product code, *System 3* automatically adds in all the relevant details for you.) All accounts are balanced automatically and updated immediately. Occasionally a credit note is required. This does not have to be entered as a negative invoice but *System 3* allows Credit Notes which are immediately printed up for posting.

With all this banking to do I now had opportunity to use the Cashflow Controller module on *System 3*.

Information regarding the current total invoice sales amount and the total

invoices payments received is automatically loaded from within invoicing/stock control. If you choose not to automatically load, this information can be entered manually. Transactions are divided into the following categories: cash receipts, cash payments, credit purchase, credit purchase payment, bank receipt and bank payment. Any credit sales and credit sale payments are handled by invoicing/stock control (or manually if you so choose).

The cashflow controller works much like manual Cashbooks and Profit and Loss account. A journal is maintained for normal adjustments. Reports available from cashflow include account summaries, transaction reports, petty cash, year to date summaries, income expenditure reports and tax reports.

Detailed analyses are available from several categories and I am sure my accountant will find these very useful.

All of these reports can be printed to hard copy or screen which has saved me an additional \$75.23 in paper which I would have wasted.

Overall *System 3* is a very capable program. It handles sale invoicing and stock control in a very simple and efficient manner. Very little is left for the average Kevin Carpenter to mess up and everything is exceptionally easy yet deceptively powerful.

Because *System 3* runs on a workbench window other utilities such as calculators, calendars, word processors can be used during a session. The cashflow controller saves a lot of time balancing cheque books and eliminates needless trips to the automatic teller to check on account balances.

The manual is sufficient. Pactronics provide more than adequate support to anyone who might require hand holding above and beyond. Within its price range I believe *System 3* cannot be beaten. For the small business person, importing gadgets, they don't get any better.

Distributed by:

Pactronics (02) 748 4700

RRP Amiga: \$129.00

Commodore computer PCB exchange service

- ◆ Same day certified mail despatch ◆
- ◆ Three months warranty cover ◆

Amiga 500

\$129

Commodore C64, 64C

\$99

- Simply remove your faulty board from its casing
- Your board must be complete and in serviceable condition.
- Forward your securely packed board together with your remittance to:

Parcom
PTY LTD

Whites Hill Shopping Village
Samuel Street
Camp Hill, QLD, 4152
Phone (07) 395 2211

BANKCARD/MASTERCARD/CHEQUE/POSTAL ORDER

NAME.....	.....	
ADDRESS.....	.....	
PHONE.....	PC.....		
PAY BY CHEQUE.....	B/C.....	M/C.....	Postal Order.....
CARD NO.....	.....	
EXPIRY DATE.....	.....	
SIGNATURE.....	DATE.....		



P.O. Box C64, Mt. Kuring-Gai, N.S.W. 2080. Fax: (02) 457 8739

1990 CONSUMER SURVEY

The following questionnaire is designed for the purposes of providing the Australian Copyright Law Review Committee with up to date information on consumer buying trends, support problems encountered with computer software in Australia and the pricing of computer software in Australia.

The parallel importation provisions of the Australian Copyright Act are currently under review to consider whether Australia should continue with the present "closed shop arrangement of Exclusive Distributors" or whether these sections of the Act should be repealed to allow open importation and distribution of all computer software, books, records and videos.

We strongly advise as many consumers as possible to complete this survey and return it to reach us no later than September 7, 1990.

ALL INFORMATION SUPPLIED TO US WILL REMAIN IN STRICT CONFIDENCE AND WILL BE SUBMITTED TO THE COPYRIGHT LAW REVIEW COMMITTEE ON THE SAME BASIS.

Name

Address

Telephone.....

TYPE OF COMPUTER/S USED

AMSTRAD PCW ATARI ST

AMIGA COMM 64

IBM OR COMPATIBLE

OTHER.....

WHERE PURCHASED (Name of store)

Specialist Retailer

Department/Chain Store

Other.....

COST OF INITIAL SYSTEM

\$

NEW EQUIPMENT OWNERS only

How do you rate the overall after-sales service and advice provided by the retailer:

(A = very good, B = good, C = fair, D = not very good, E = poor).

A	B	C	D	E
---	---	---	---	---

If you have had to have your computer or any peripheral repaired under warranty, how would you rate the service provided by the manufacturer:
(A = very good, B = good, C = fair, D = not very good, E = poor).

AMSTRAD	A	B	C	D	E
ATARI	A	B	C	D	E
COMMODORE	A	B	C	D	E
IBM	A	B	C	D	E
OTHER	A	B	C	D	E

(Name)

SOFTWARE SECTION

What categories of software do you mainly purchase?

Games Productivity

Education Other

Do you own any Back-up, Copying, Archival programs, cartridges or other such devices?

Yes / No

What is the average retail price that you pay for the following software?

Games Productivity

Education Other

Do you think that the price of software in Australia is:

Good value for money?

Fair value for money?

Poor value for money?

Overpriced?

Where do you generally purchase your software from?:

Specialist Retailer

Department/Chain Store

Local Mail Order

Overseas Mail Order

Why do you purchase your software from the above retailer?

Price Availability

Service Helpful advice

Support

Have you ever been offered counterfeit or pirate copies of software by a retailer?

Yes / No

Which of the following companies do you recognise as being software distributors?:

COMPUTAMART
COMPUTERMATE
DATAFLOW
ELECTRONIC ARTS/ECP
IMAGINEERING
MINDSCAPE
OZISOFT/QUESTOR
PACTRONICS
OTHER (Name)

How do you rate the overall level of service and support provided by the following companies?: (A = very good, B = good, C = fair, D = not very good, E = poor).

COMPUTAMART	A	B	C	D	E
COMPUTERMATE	A	B	C	D	E
DATAFLOW	A	B	C	D	E
ELECTRONIC ARTS/ECP	A	B	C	D	E
IMAGINEERING	A	B	C	D	E
MINDSCAPE	A	B	C	D	E
OZISOFT/QUESTOR	A	B	C	D	E
PACTRONICS	A	B	C	D	E
OTHER	A	B	C	D	E

In order of ranking, name 3 retailers who overall offer service, efficiency and general helpfulness:

.....
.....
.....

From what source do you first learn of new releases or gain knowledge of new software?:

Retailers
Magazines
Other Users

Please list the top 3 distributors whom you think provide consumers with the best after-sales service and information on products:

1
2
3

Please list the distributors whom you consider provide the worst level of service and information:

A
B
C

Please list in order of ranking, the distributors whom you consider to have the most effective advertising:

1
2
3

Please list in order of ranking, the distributors whom you consider to have the least effective advertising:

A
B
C

Which of the following magazines do you read regularly?:

A.P.C. (AUST.)
ACE (U.K.)
AMIGA COMPUTING (U.K.)
AMIGA FORMAT (U.K.)
AMIGA PLUS (U.S.)
AMIGA WORLD (U.S.)
AUST. COMM. & AMIGA REVIEW
GAMES MACHINE (U.K.)
INFO (U.S.)
PC LEISURE (U.K.)
PC TODAY (U.K.)
PC USER (AUST.)
ST FORMAT (U.K.)
ST WORLD (U.K.)
V.C. & C. (U.S.)
ZZAP (U.K.)

Which magazines help the most in your decision to buy a particular piece of software?:

.....
.....
.....

COMPUTERMATE 1990 RETAILER SURVEY

The information provided in this survey is, to the best of my knowledge, truthful and accurate.

Name Signature
Address

This completed survey is provided on the basis that all information provided herein will remain in strictest confidence.

New Release!

Version 6

The first in a new series of integrated C64/C128 hardware products from CMD

JiffyDOS

Give your system a new lease on life and the power to compete with today's newer, more expensive magazines

- Ultrafast multi line serial technology. Enables JiffyDOS to outperform cartridges, Back Roms, Turbo Roms and Parallel Systems - without any of the disadvantages.
- Speeds up all disk operations Load, Save, Format, Scratch, Validate, access PRG, SEQ, REL, USR \$ direct access files, up to 15 times faster!
- 100% compatible - or your money back. Guaranteed to work with all your hardware and software, including copy-protected commercial programs.
- Uses no ports, memory or extra cabling. The JiffyDOS Roms upgrade your computer and drive(s) internally for maximum speed and compatibility.
- Easy installation. No electronics experience or special tools required.
- Supports C64, 64C, SX64, C128, C128D, 1541, 1541C, 1541-II, 1571, 1581 and more.
- Can be completely switched out. If ever necessary, the flip of a switch returns you to a 100% stock configuration - without resetting or powering down. Built-in DOS Wedge, Plus 17 additional commands and convenience features, including file copier, screen dump, directory menu, and single-key load/save/scratch.

Available for C64, 64C, SX-64, C-128 and C-128D (JiffyDOS/128 speeds up both 64 and 128 modes), and 1541, 1541C, 1541II, 1571, 1581, FSD-1&2, MSD SD-1&2, Excel 2001, Enhancer 2000, Amtech, Swan, Indus & Bluechip disk drives. System includes ROMS for computer and 1 disk drive, stock/JiffyDOS switching system, illustrated installation instructions, User's Manual and Money-Back Guarantee.

POWER CARTRIDGE

FOR YOUR
COMMODORE 64/128



POWER TOOLKIT

A powerful BASIC-Toolkit (additional helpful commands) that considerably simplifies programming and debugging. The toolkit commands can be used in your programs.

DISK TOOL

Using POWER CARTRIDGE you can load up to 6 times faster from disk. The Disk commands can be used in your own programs.

TAPE TOOL

Using POWER CARTRIDGE you can work up to 10 times faster with your data recorder. The Tape commands can be used in your own programs.

POWERMON

A powerful machine language monitor that is readily available and leaves all of your Commodore memory available for programming. Also works in BASIC-ROM, KERNAL AND I/O areas.

PRINTER TOOL

The POWER CARTRIDGE contains a very effective Printer Interface, that self detects if a printer is connected to the Serial Bus or User-Port. It will print all Commodore

characters on Epson and compatible printers. The printer interface has a variety of set-up possibilities. It can produce HARDCOPY of screens not only on Serial printers (MPS801, 802, 803) but also on Centronics printers (epson, Star, Citizen, Panasonic etc). The HARDCOPY function automatically distinguishes between HIRES and LORES. Multi-colour graphics are converted into shades of grey. The PSET functions allow you to decide on Large/Small and Normal/Inverse printing.

On the back of the POWER CARTRIDGE there is a Reset Button. Pressing this button makes a SPECIAL MENU appear on the screen. This function will work with many programmes.

CONTINUE - Return to your program.

BASIC Return to BASIC.

RESET Normal RESET.

TOTAL BACKUP DISK Saves the contents of the memory onto a Disk. The program can be reloaded later.

RESET ALL RESET of any program.

TOTAL BACKUP TAPE As BACKUP DISK HARDCOPY Prints out a Hardcopy of the screen.

MONITOR takes you into the Machine language Monitor.

RRP \$49.95

HPD Pty Ltd,
5-7 Railway Terrace, Dry Creek, SA 5094
PO Box 121, Dry Creek, SA 5094
Phone: (08) 349 8486 Fax (08) 349 4667

COMMODORE

MPS 1230 Printer
\$329.00

1541-11 Disk Drive
\$295.00

1084S Color Monitor
\$449.00

PC COLT

- IBM Compatible
 - 640K RAM
 - Dual Floppy
- 101 Key Keyboard
 - 10mbps

\$999.00

FREE MONO SCREEN

PRINTERS

Oki
ML172 9 Pin 180cps
\$279

ML320 9 Pin 300cps
\$599

ML390 24 Pin 2700cps
\$699

CITIZEN

200 GX 9 Pin Colour
240 cps Paper Park
Push or Pull Tractor
\$499.00

GSX140 24 Pin Colour
192cps Paper Park
\$775.00

2 YEAR WARRANTY

SHARP PORTABLES

- IBM Compatible
 - 640K RAM
 - Dual Floppy
- LCD Backlit Screen
 - \$795.00

SHARP LAPTOPS

SHARP SCANNERS

SHARP LASERS

ALL IN STOCK NOW
LAPTOPS FROM

\$1,499.00

BUSI-SOFT COMPUTERS



BOX HILL - 618 Station St

FRANKSTON - 20-22 Young St

orders only (008) 032 085

Ph: (03) 890 8900

Ph: (03) 770 1717

Fax : (03) 783 7024

AMIGA

AMIGA SOFTWARE	
Atalk III	\$79.00
Deluxe Paint III	\$239.00
Deluxe Video III	\$165.00
Maxiplan Plus	\$199.00
Pen Pal	\$199.00
Phasara	\$99.00
Professional Page	\$399.00
Pro Write 3	\$199.00
Superbase	\$79.00
Superbase Prof.	\$299.00



AMIGA GAMES

Blue Angels	\$46.00
Crackdown	\$36.00
E-Motion	\$36.00
Knights of the Crystalline	\$36.00
Operation Thunderbolt	\$36.00
Platoon	\$20.00
RVF Honda	\$45.00
Shuffle Puck Cafe	\$30.00
Space Ace	\$75.00
Vegas Gambler	\$25.00



HUNDREDS OF GAMES IN STOCK

POWER UP YOUR 2000	
XT Bridge Board	\$749
AT Bridge Board	\$1349
40Mb Hard Drive	\$899
80Mb Hard Card	\$1649
105Mb Hard Card	\$1795
Flicker Fixer	\$749
2058 RAM Expansion	\$799

COMMODORE 64

Snow Strike (D)	\$19.95
Crack Down (D)	\$32.00
Rainbow Island	\$32.00
F14 Tomcat	\$32.00
F18 Hornet	\$32.00



Golden Image Optical Mouse

This optical mouse available from Computa Magic and MVB Computers in Victoria is the only replacement to my original I would consider.

It is a true optical mouse, ie no moving parts. Movement tracking is simple. Two low intensity LEDs shine onto a special reflective pad. The light reflects onto a chip through a lens in the base of the mouse.

There is no roller ball to skitter at high speed and collect fluff. The mouse, weighing 85 grams, is a pleasant change to pushing a truck. The three buttons have a positive feel and an easy clean operation. During a severe test on Star Wars they did not stick like the old Amiga mouse. I experienced less fatigue because of the shape of the mouse and the snug fit under the hand.

When using a drawing or design program like Design 3D or Deluxe Paint III the mouse is easy to control and makes



for fewer edits under magnification.

Technically, the Golden Image mouse has high resolution, 250 DPI, is highly sensitive and accurate. It has long term reliability and no maintenance. The mouse functions without loss of performance on uneven or sloped surfaces. The only drawback is the chance of losing your pad. It did however function using a typed sheet of paper and graph paper as a pad. Replacement pads are available though.

At \$129 it represents good value if you are looking for a step up in comfort and response from your mouse.

K. LONGSHAW

Win an Optical Mouse !

Simply write to us saying which of the advantages mentioned in the above article you think is the most important (ie "easy to control", or "long term reliability"), and you could win a Golden Image Optical Mouse.

Address your letter to Optical Mouse, Australian Commodore and Amiga Review, 21 Darley Road, Randwick, 2031. Letters should arrive here by 4 October 1990.

Winner of Amiga Action Replay Competition

The above competition has been won by Mick Gooch of Lowood, Queensland. He wrote:

I would like to enter your Amiga Action Replay Competition for many and varied reasons. Most of these are selfish and some are based in furthering my boys' computer education. Like me, they are unaware of the actual processes involved in the production of the final "on screen" product. The Amiga has proven a particularly difficult customer for me to get to fundamental grips with - this product appears to offer the potential for further progress.

Anyway, here are 25 words why I would like to own an Amiga Action Replay Cartridge:-

"Dad gets stuck on level 1, he dies so often that increased reload speed and slower action are essential. He might learn something about computing."

My two computer literate joystick jockeys believe that this is why I need such a product. One day they may have to eat humble pie!

Kindest regards,
Mick Gooch

Amiga Action Replay Cartridge is distributed by HPD Pty Ltd, (08) 349 8486.



CHARLIE'S COMPUTER WORKSHOP

COMMODORE REPAIRS & SPARE PARTS

★ MAIL ORDER PARTS ★

FAST SERVICE at
REASONABLE PRICES

★ REPAIRS by MAIL ★

Open weekdays 8.30 - 5.00

2A HARPER ST.
ABBOTSFORD VIC.3067.
PHONE: (03) 417 4644

KICKBOARD

Kickstart™ version conversion at the flick of a switch! From 1.2 to 1.3 for A500 & A2000 on one plug in circuit board ready for you to fit it yourself, with easy instructions. (Kickstart ROMs not included.) 12 month warranty.

Kickboard was designed and manufactured exclusively to suit A500 & A2000 allowing the software user greater options of use.

Bankcard - Visa - Mastercard. Post add \$2.40
KICKBOARD ----- \$47.50

Unitech Electronics Pty. Ltd.
10AM - 6PM Mon. - Fri.
Tel: 02-603-4318 Fax: 02-603-8685
Independent repairs to Commodore products.
Dealer inquiries welcome.

MEMORY CHIPS FOR AMIGA USERS

Prices as at 1st August

DIP/ZIP	SPEED	100ns	80ns	70ns
414256		9.40	9.85	10.60
41256		2.65	2.80	3.20
41464		2.75	2.90	
4164		2.50		
SIMMS FOR GVP				94.00
HARD DISK (1MB)				

Sales Tax 20%

Overnight delivery, credit cards welcome.

Phone for pricing PS2, Compaq, Toshiba

pelham PTY LTD

Tel: (02) 427 0011 Fax: (02) 428 5460

The Best Assembler Macro68

\$195.00

Requires at least 1 meg of memory.

Macro68 is a powerful new assembler for the entire line of Amiga personal computers.

Macro68 supports the entire Motorola M68000 family, including the MC68030, MC68882 FPU, and MC68851 MMU, as well as the Amiga Copper.

This fast, multi-pass assembler uses the new Motorola M68000 Family assembly language syntax, and comes with a utility to convert the old-style syntax source code painlessly. The new syntax was developed by Motorola specifically to support the addressing capabilities of the new generation of CPU's.

Macro68 boasts macro power unparalleled in products of this class. There are many new and innovative assembler directives to make programming easier. For instance, a special structure offset directive assures maximum compatibility with the Amiga's interface conventions. A user-accessible file provides the ability to customize directive names and run-time messages from the assembler. An AREXX(tm) interface provides "real-time" communication with the editor of your choice. A number of directives enable Macro68 to communicate with AmigaDOS(tm).

Possible the most unique feature of Macro68 is the use of a shared library, which allows resident preassembled include files for incredibly fast assemblies.

Macro68 is compatible with the directives used by most popular assemblers. Output file formats include executable object, linkable object, binary image and Motorola S record.

If you're new to ReSource, here are a few facts: ReSource is an intelligent interactive disassembler for the Amiga programmer. ReSource will enable you to explore the Amiga. Find out how your favorite programs work. Examine your own compiled code.

ReSource will load/save any file, read disk tracks, or disassemble directly from memory. Symbols are created automatically, and virtually all Amiga symbol bases are supported. Additionally, you may create your own symbol bases.

"If you're serious about disassembling code, look no further!"

The original ReSource continues to be available for owners of 68000 based machines. Both versions of ReSource require at least 1 meg of ram.

ReSource	\$130.00
ReSource'030	\$195.00

ReSource

The Best Disassembler

To order Macro68:

DigiSoft

12 Dinmore St.
Moorooka, 4105
Brisbane
Ph. (07) 277-3255

Payment is accepted by:
BankCard, MasterCard, Visa
Cheque or money order.



To order Resource:

Glen McDiarmid

28 Marginson St
Ipswich

Ph. (07) 812-2963

Resource, the powerful disassembler for the Amiga that has received rave reviews, now has a big brother.

Like the original version, ReSource'030 will tear apart your code like no other program. And it will do so even faster now, because ReSource'030 is written in native MC68030 code. This means that it won't run on a vanilla 68000, but it will fly on an A3000, or another machine with a 68020/030 board.

ReSource'030 supports the new Motorola M68000 family assembly language syntax, and is a perfect companion for Macro68.

CMD Hard Drive

Looking for an alternative to a string of 1541 drives? Rod Gasson has the answer...

Having recently set up a BBS dedicated to Commodore 64/128 users I found that my two 1571 and one SFD1001 disk drives were severely limiting.

Although the old Commodore SFD drive is capable of storing 1 meg of data, there just wasn't enough capacity to store all the files and data that a reasonable sized BBS requires. I only really had one option, and that was to purchase a HARD drive. After making a few enquiries I found that there were only two hard drives available for the C64/128, these are the Lt.Kernal and the CMD series.

I was able to contact a couple of people using the Lt.Kernal to find out a bit more about them, but I could find no one that had actually got (or used) the new line of drives from CMD. Anyway after a bit of consideration I decided to purchase the CMD HD40. The reasons for my choice were:-

► I was very impressed with CMD's other great product, Jiffy Dos, and I figured that if they had put as much thought and effort into producing the HD as they did with their JiffyDos, then the drive would be and do everything that the makers claimed.

► The CMD drive is claimed to be almost 100% compatible with most software, since it uses the serial cable and standard DOS commands, whereas the Lt.Kernal uses a parallel cable, and it isn't as compatible with other programs as the CMD, also the Lt.K is BIG and noisy (or so I have been told). When I put the CMD drive through its paces, this is what I found ...

I was pleasantly surprised at its construction, it is small (5" + 3" + 10") and STURDY, it has a nice solid feel to it, and is very well constructed.

It came complete with instructions, serial cable, two utility disks (floppies) and an American (110v) power supply

thus making it necessary to use a step-down transformer. This latter was a mistake, because CMD do supply these units with a suitable power supply for Australian conditions (I am currently waiting for the "proper" power supply to arrive). Anyway I have been assured that all units being imported now do have the correct supply.

The instruction manual is in the form of a ring-bound folder which makes it ideal to add pages etc as and when future DOS upgrades and docs are released.

It is quite well laid out, and goes through the basics of how to set-up and use the drive, through to advanced applications on how to access its various functions from within your own programs, and all aspects of it include practical working examples, making it ideal for both beginners and experienced users.

As mentioned earlier the HD comes with two utilities disks, one for GEOS and the other contains the HD DOS and the other support programs to make setting up the drive child's play.

The hard drive arrives already pre-formatted with the latest version of DOS already installed, along with copies of the utilities programs, but being a bit of a "fiddler" I decided to reformat and reinstall the DOS myself, just to see how it works. The whole thing went without any problems, it was only a simple matter of loading the appropriate program from the floppy and following the on screen instructions, a real breeze. Also for the programmers and those that like to really "get at" the data on the drive is a utility program called *HD disk cracker*.

This is a module by Mike J.Henry along the same lines as his other disk cracker programs for the 1541/71 (I am sure that most "serious" users would have seen and used at least one of Mike Henry's programs).

For those that are loathe to dabble with things like disk editors, and have no idea as to what it means to install DOS, it is really not necessary to know about them because the drive does arrive all ready to use, with several partitions already set up for you.

The GEOS utility disk supplied contains several modules designed to be placed onto your GEOS BOOT disk. This will enable the GEOS program to recognize the hard drive, it will also set the GEOS's system clock upon loading by reading the clock from the hard drive. The manual says that these modules were created to work with GEOS V2.0 or higher and no attempt was made to make them compatible with earlier versions, therefore they cannot take responsibility for any problems.

Back to the basic operation. My first priority was to set the drive up so that I could run my BBS from it, so I figured the simplest way was to select the largest partition available to me (16 megs) and place all of my systems and download files into that partition. This was a simple job using a standard file copier (also supplied), but time consuming. After all was transferred, I loaded the BBS and ran the program. All worked without a hitch with one noticeable difference - it was FAST - so I then decided to do a few speed comparisons.

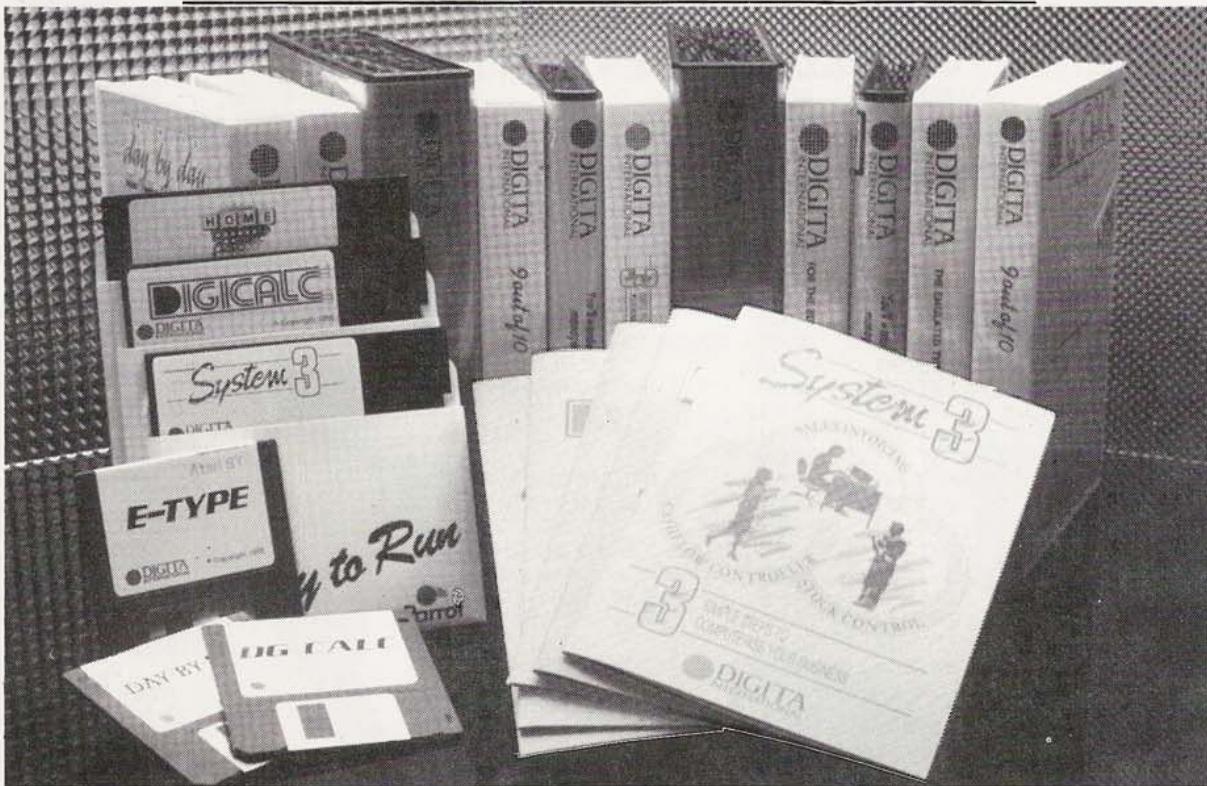
This is what I found.
Loading a 202 block program file (about 50k)

1541 d/d (stock 64mode)	=2:11:85
1541 d/d (jiffy dos 64mode)	=16:53
1571 d/d (stock 128mode)	=15:82
1571 d/d (JiffyDos 128mode)	=15:87
CMD HD (stock 64mode)	=1:26:63
CMD HD (JiffyDos 64mode)	=7:60
CMD HD (stock 128mode)	=9:28
CMD HD (JiffyDos 128mode)	=7:60

As can be seen, the best performance is achieved with Jiffy Dos installed in any mode, but even a stock 128 gives a very fast time of just over 9 seconds for a 50k program, which is not bad at all considering it is all done via the serial interface. (I

Cont. on page 27

HIGH FLYING SOFTWARE AT LOW FLYING PRICES!!



SYSTEM 3 ACCOUNTING

A complete, integrated accounting system for the small business. SYSTEM 3 comprises Inventory, Debtors Ledger, Sales Order Entry, General Ledger and Cashbook. Where SYSTEM 3 differs from other accounting packages is in its simplicity of use. The system can be installed in 5 minutes, and your first invoice can be produced in under a half an hour. Full reporting facilities are provided, along with an excellent, plain English manual.

DG CALC

90% of spreadsheet users only use 10% of the commands and features in the leading spreadsheets, according to a recent U.K. survey. DG CALC has been designed from the ground up to meet the demands of everyday users. Whilst all of the most needed mathematical functions are available, there is none of the jargon. A common sense manual and hands-on tutorials ensure complete learning.

DAY BY DAY

An excellent way to organise birthdays, anniversaries, meetings, telephone calls, etc. Days/week/month planner and automatic reminders.

HOME ACCOUNTS

Personal financial control has never been this easy! HOME ACCOUNTS is a simple to use, but comprehensive cashbook-type program. Fully menu driven, the basics can be learnt in a day. A wide range of reports can be generated, along with graphs of your data. Budget-Actual comparisons can be quickly and easily produced, highlighting any defects in financial planning. Maybe Mr. Keating could use this.

MAILSHOT PLUS

Do you manage a large mailing list? Your prayers have been answered! MAILSHOT PLUS uses WYSIWYG display on all monitors, on all machines, to show EXACTLY how your labels will appear. A unique feature is the ability to detect and eliminate duplicate mailings. No more wasted postage, no more angry recipients. Also, data can be imported from ANY database program.

The DIGITA range comprises user-friendly home productivity software. All manuals are written with the end user in mind. Jargon and technical terms are excluded wherever possible, common sense and plain English prevail.

Full technical support is available through Pactronics.

*All DIGITA covers and manuals are now produced from environment friendly paper.
There is no reduction in paper quality or durability.*

The DIGITA range of Software is available for AMIGA, IBM PC and compatibles and ATARI ST.

Pactronics
"The User Friendly Company"

Available From:

Computer Spot (All Branches)
Grace Bros., Myer, Harvey Norman,
John Martins, Harris Scarfe,
Maxwells Office Equipment, Midi
Mouse Computers and all good
computer retailers.

For your nearest retailer please contact:

N.S.W.: Pactronics Pty Ltd, 98 Carnarvon Street, Silverwater (02) 748 4700
VICTORIA: Pactronics Pty Ltd, 51-55 Johnston Street, Fitzroy (03) 419 4644
QUEENSLAND: Pactronics Pty Ltd, 12 Stratton St, Newstead 4006 (07) 854 1982
SOUTH AUSTRALIA: Contact N.S.W. or Victoria Office
WESTERN AUSTRALIA: Pactronics Unit 13, 113 High Rd, Willetton 6155 (09) 354 1122
TASMANIA: ESP Marketing, 52 Elphinstone Rd, Mt Stuart 7000 (002) 78 1606

WHO **WANTS** TO BE AT YOUR **SCHOOL**
SO **MUCH** THEY'VE **SPENT** OVER
HALF A MILLION **DOLLARS** DEVELOPING
EDUCATIONAL **SUPPORT** MATERIAL?



Commodore computers, from the extraordinarily versatile Amigas to the totally MS-DOS compatible PC range, have always been exceptional value for money.

Which makes them an extremely attractive proposition for schools.

Now, with over half a million dollars invested in the development of educational support material, they

are even more so. For more details, call this number, free: 008 023 233.

Commodore
TOTALLY COMMITTED TO EDUCATION

Sponsors of the 1990 World Conference on Computers in Education.

have been told that the Lt.Kernal can double these speeds, but this is only achieved with a parallel interface). All the times were taken from the time I pressed the return key until I got the "ready" signal, so therefore include the time it takes to search the directory.

The HD partitions can be set up in several different formats, these are:

1) **Native mode.** You define the size of the partition, anything from 256bytes up to 16megs. As mentioned previously I originally set my BBS up onto a single partition of 16megs (over 65000 blocks free), which makes the "standard" 1541's 664 blocks look like a drop in the ocean and that is only 1/3 of the storage capacity available to me, it even makes the 4322 blocks free on my SFD drive look pathetic.

2) **Printer Buffer.** Although this option isn't available on my version of DOS it is available on all units now being shipped. It allows you to set a predefined area as a printer buffer, the printer serial cable plugs into a separate socket in the HD and when you select print output from ANY program the data is interrupted and sent to the HD instead, the HD Dos will then relay this data out to your printer. By using this facility your computer is released for further use in a matter of seconds while the print out is being performed by the HD.

3) **Emulation mode.** In this mode the partition is set up to emulate either the 1541/1571/1581 drives, this is ideal for those programs that look for data on a particular track and sector. I haven't used the 1581 emulation mode, but the 1541/71 modes work very well. On my test run I copied a program that made heavy use of direct track/sector access. It performed flawlessly, you can even use a standard 1541/71 disk editor to read these disks directly: for all intents and purposes when a partition is set up in this mode the HD behaves EXACTLY like the drive it is emulating, but faster. I did have problems trying to use some copying programs with it (such as *Fast Hackem*).

4) **Foreign mode** I'm not sure about this but apparently it allows you to set up a partition in an "alien" format suitable for IBM's, Amiga etc, this (plus the SCSI port) allows you to use the HD with other types of computer. This "alien" format can also co-exist with the normal Commodore formats, allowing two different computers to share the same hard drive.

Up to 255 partitions can be defined, but in practice you will never use this many because it is easier to just use quite large native mode partitions for most applications, and therefore you will usually run out of memory space before you can even get close to using that many.

Loading/saving programs from various partitions

This is simplicity itself, and there are two ways to do this.

You can select the "current" or "default" partition with a simple basic command - open 15,8,15,"cpx" where "x" is the partition you wish to use. All subsequent disk operations and access will be to the new partition.

Or from ANY partition you can load or save a program from any other partition with a simple load "n:filename" where "n" is the partition where the program is stored. This is an extension of the basic 2 syntax when "n" is usually reserved for a dual floppy and used to define drive 0 or 1, but it can now be extended to up to 255 "drives". If "n" is set to "0" then the HD treats this as a special case and accesses the "current" partition. This type of syntax is what makes the CMD HD so compatible

cont. on page 32



NEW RELEASES

AMIGA ACCESSORIES	Suggested Retail
A500 BB504 INT. MEM. BASEBOARD 1Mb Populated, Expandable to 6.5Mb	449.00
A500 BB504 INT. MEM. BASEBOARD Unpopulated, Expandable to 6.5Mb	269.00
A500 K.C.S. POWER PC BOARD	799.00
DR. T'S PHANTOM (SMPTE Synch.)	379.00
FRAMEGRABBER (PAL) : Realtime	1299.00
RADICAL MIDI (Microdeal)	69.95
RGB COLOUR SPLITTER for use with Vidi Amiga	249.00
AMIGA SOFTWARE - EDUCATION	
BIBLE READER. New Int'l. Version	129.00
SESAME STREET TRI-PACK: Letters For You Numbers Count & Opposites Attract	79.95
AMIGA SOFTWARE - PRODUCTIVITY	
3-D PROFESSIONAL	549.00
AMIGAVISION	199.00
A.M.O.S. - Games Creator	119.00
CALENDAR MAKER	74.95
CREDIT TEXT SCROLLER	59.95
CROSS DOS V4.0	64.95
ELAN PERFORMER 2.0	199.00
EXCELLENCE 2	299.00
IMAGINE	449.00
PRO VIDEO ALTERNATE FONT SET 3 Coup, Electric, Fancy and Tubular	119.00
PRO VIDEO ALTERNATE FONT SET 4 Headline, Nova, Optic and Network	119.00
PROWRITE FRENCH DICTIONARY	49.95
PROWRITE GERMAN DICTIONARY	49.95
PROWRITE PRO FONTS 1	49.95
10 Professional Fonts	49.95
PROWRITE PRO FONTS 2	49.95
27 Decorative Fonts and Dingbats	99.00
QUARTERBACK TOOLS	99.00
QUARTET	99.00
SCENE GENERATOR	59.95
TEMPLICITY. Templates for Analyze	59.95
TEMPLICITY. Templates for Superplan	59.95
TITLE PAGE. Page titler	179.00
TURBO SILVER Inc. Terrain	239.00
T.V. SHOW (PAL)	119.00
ULTRACARD PLUS	145.00
ZUMA FONTS VOL.2 Euro, Stencil & Chelt.	39.95
ZUMA FONTS VOL.3 Coop, Script & Fast	39.95
ZUMA FONTS VOL.4 Deco, Divine & Draft	39.95
COMMODORE 64/128 ACCESSORIES	
CHEATSHEET - Fleet System 2+	9.95
CHEATSHEET - GEOS V2.0 64	9.95
CHEATSHEET - GEOS V2.0 128	16.95
VSI IBM TO C64 ADAPTOR	79.95
Allows use of C64 compatible printer with PC compatibles. Includes cable and software.	
Available at selected Amiga Software Dealers.	
Distributed and Supported by: ComputerMate Products (Australia) P/L. P.O. Box C64, Mt. Kuring-Gai, N.S.W. 2080 Telephone: (02) 457 8388 Fax: (02) 457 8739	
Technical Support: (02) 457 8548	

PC Accounts & Admin PACKS

- * Accounts
- * PC30 series III
- * EGA monitor
- * Sybiz Bookworker
- * Sidekick Plus
- * Training tapes
- * 10 floppy disks
- * Administration
- * PC30 series III
- * EGA monitor
- * Quattro Pro
- * Sprint
- * Training tapes
- * 10 floppy disks



PC30 series III is a fully compatible 80286 AT computer with 1 meg of ram plus a 40 meg SCSI hard disk. EGA graphics.

\$2,985
Free Installation!

PC XT TURBO & PC AT 12MHz

- * PC 10 series III + 40 meg hard disk/CGA monitor \$1995
- * PC 10 series III + 40 meg hard disk/EGA monitor \$2295
- * PC 30 series III + 40 meg hard disk/EGA monitor \$2695
- * PC 30 series III + 40 meg hard disk/VGA monitor \$2995

Commodore AMIGA

A500 DELUXE KIT EXCLUSIVE in NSW TO COMPUTER SPOT

- Amiga 500
- 1 meg of ram
- Maxiplan Plus
- Deluxe Music
- Kindwords 2.0
- Info-File
- Fusion Paint
- Plus 2 games

\$1099



A500 STARTER KIT LATEST VERSION

- Amiga 500
- TV modulator
- Kindwords 2.0
- Fusion Paint
- Interceptor
- Indiana Jones
- Kick Off
- Quality games!

\$899

PC/AMIGA PRINTERS from

\$299

SEGA MASTER SYSTEM \$149

inc. Free Game

RED HOT SPECIALS!!!!

AMIGA 2nd DRIVE \$199

12 months warranty

AMIGA 500 \$799

Inc. Free Games!

AMIGA 1084 STEREO COLOUR MONITOR \$449

3.5" DISKS \$14.95

pack of 10

FREE AMIGA GAMES PACK WITH ANY AMIGA HARDWARE PURCHASED

Computer Spot



MAIL ORDER

Unit 3, Metro Centre,
38-46 South Street, Rydalmere, NSW 2116

Phone (02) 638 2897

TOLL FREE (008) 252 130. FAX (02) 638 0793

Prices subject to change without notification

AVOID DISAPPOINTMENT!

Popular hardware items become hard to keep in stock towards Christmas time **EVERY** year!

LAYBY NOW! Don't miss out. Our Layby terms are guaranteed. Full money back if you change your mind. PLUS if the price goes down on the goods you have on layby, then you get the cheaper price! How can you go wrong?

STATIONERY

* 900 sheets A4 quality tractor paper	\$39.95
* 500 sheets A4 quality tractor paper	\$19.95
* 2000 sheets A4 quality tractor paper	\$69.95
* 3.5" diskette labels pack 100	\$19.95
* VHS video labels pack 100	\$29.95
* Mailing labels pack 100	\$19.95
* 5.25" floppy disks DSDD no frills	\$19.95
* 5.25" floppy disks DSDD Memorex	\$7.95
* 3.5" floppy disks DSDD Memorex	\$14.95
* 3.5" floppy disks DSDD no frills	\$29.95
* 3.5" floppy disks DSDD Memorex	\$17.95
* 5.25" disk storage box 100	\$24.95
* 3.5" disk storage box 100	\$49.95
	\$16.95

Amiga 500 Ram Expansion

- 512K \$189
- 1 meg \$399
- 2 meg \$549

Trade in your old 512K Ram. Call for details.

PC COLT

IBM PC compatible
640K twin floppy

\$799

Citizen 200GX

NEW
Latest Technology!
1990 breakthrough!
the fastest feature packed
9 pin colour printer on the
market! This is the BEST
Suits IBM, Amiga, Atari...

\$499

2 YEARS WARRANTY

PRINTER RIBBONS

We stock a large range of printer
ribbons at the best prices all with
full replacement warranty. Call
any of our stores or our mail
order service for details.

AMIGA

A590
A590 20 meg Harddisk
with 2 meg ram option
the professional addition to the
growing Amiga 500 system...

\$799

All Specials are
limited quantity
bargains
appreciate us now,
avoid the RUSH!

AMIGA 500
\$799

AMIGA 1084 STEREO COLOUR MONITOR \$449

AMIGA SOFTWARE

ART

Deluxe Paint 2	Top art package	99.95
Deluxe Paint 3	The best art/animation package	199.00
Deluxe Print 2	Posters and banners, supports colour	189.95
Digi Print 2	A high quality graphics editor	134.95
Digiview Gold 4	Voted best digitizer, new dyn. res.	299.00
Fantavision	Animation package	99.95
Introad Plus	Quality 2d card package	199.00
Piximate	Professional graphic editor	89.95
Sculpt Animate 4D	Ultimate 3d render/animate	89.95
TV Text Pro	Improved titler with fonts	274.95
Video Scape 3D	3D animation pack	295.00
Title Page	Excellent character generator	299.00

ARCADE ACTION

Ant Heads	It's desert part II (needs original)	29.95
Batman Movie	For those Batman fans	59.95
Conqueror	3D tank arcade strategy game	59.95
Crack Down	Street action	59.95
Datastorm	Classic shoot 'em up!	49.95
Dragon Ninja	Latest martial arts game	69.95
Dynamite Dux	Hilarious arcade fun	69.95
Ghosts and Goblins	Classic arcade hit	49.95
Indiana Jones Last Crusade	Guide Indy through all the perils	59.95
Indiana Jones Temple of Doom	Most dangerous adventure yet!!!	69.95
Jumping Jackson	Musical arcade fun	49.95
Kid Gloves	Cute maze ladders game	69.95
Klax	Crazy new game	49.95
Pinball Magic	Excellent pinball game	39.95
Pipe Mania	Crazy hot new game hit!	59.95
Projectyle	Fast paced sci-fi sports game	49.95
Shadow of Beast	Hot arcade classic	59.95
Skidz	3D bike riding fun!	59.95
Sonic Boom	Scrolling shoot 'em up!	59.95
Star Wars Trilogy	3 games in one	49.95
Stunt Car Racer	Quality 3D racing	49.95
Super Cars	Great strategy car racing	54.95
Super Puffy's Saga	Excellent maze game	59.95
Teenage Mutant Ninja Turtles	Hit cartoon conversion	69.95
Tower of Babel	3D strategy epic	59.95
Toystettes	Crazy fun maze game	49.95
Turbo Outrun	Arcade car racing	59.95
X Out	Hot new shoot 'em up!	59.95
Zombi	Horror fun	59.95

ADVENTURE

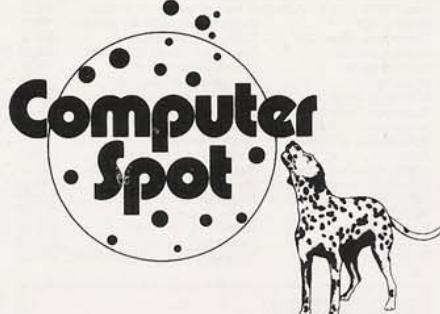
Aquanaut	Underwater graphic adventure	59.95
Battletech	Role playing adventure	59.95
Budokan	Superb new martial arts game	49.95
Castle Master	3D dungeon adventure	59.95
Champions of Krynn	New D&D role playing hit	59.95
Colorado	Wild west adventure	69.95
Deja Vu 2 Lost in Las Vegas	The adventure continues	69.95
Dragons Breath	Serious D&D travels	79.95
Dragons of Flame	Latest D&D series	54.95
Drakken	Deep dungeon dwellers	59.95
Fairy Tale	Animated fantasy	49.95
Heroes Quest	Sierra adventure	59.95
Hound of Shadow	Old English detective adventure	49.95
Infestation	3D sci-fi adventure	59.95
It Came From The Desert	Latest Cinemaware release	59.95
Kings Quest 4	Sierra epic adventure	59.95
Kings Quest Pack of 3	Best adventure collection	79.95
Knights of Crystalion	Sci-fi adventure game	59.95
Lesure Suit Larry	Adults only adventure	49.95
Lesure Suit Larry 2	Looking for love	79.95
Lesure Suit Larry 3	Great adult 3D adventure	59.95
Manhunter San Francisco	Sierra sci-fi adventure	59.95
Onslaught	In the days of the warrior	59.95
Pirates	Fantastic adventure!	59.95
Police Quest	Police adventure sierra	64.95
Police Quest 2	Sierra police adventure	59.95
Romance of 3 Kingdom	Epic sized adventure	109.95
Sir Fred	Role playing fun...	59.95
Space Quest 3	Outer space sierra	59.95
Tunnels of Armageddon	3D sci-fi adventure	54.95

BUSINESS

Accountant	Professional business system	495.00
Adventure	Quality high-speed spreadsheet	300.00
B.E.S.T. Accounting	Full accounting system	499.00
Day by Day	Home cash flow organizer	69.95
Deluxe Video 3	Design animated scripts with sound	189.95
DG Calc	Quality spreadsheet	89.95
DG Calc...	Quality spreadsheet	99.95
E Clipz	Structured clip-art for pro page	159.95
Easy Ledgers	Accounts payable and receivable	595.00
Excellence	Professional wordprocessor	299.00
Maxplan Plus	Fully featured spreadsheet	195.00
Page Stream	Quality desktop publishing	269.00
Page Stream Fonts	Additional fonts	59.95
Professional Page	Quality dtp package	399.00
S.B.A. Cash	Small bus. cash book	164.95
Scribble Platinum	Quality wordprocessor	99.95
Superbase Personal	Excellent database	69.95
Superbase Professional	Fully programmable version	329.00
System 3	Full business management	129.95
Top Form	Quality forms designer	134.95
Word Perfect 4.1	The ultimate word processor	499.00
Works Platinum	3 in 1 business pack	229.95

EDUCATIONAL

Amiga Logo	Educational programming	74.95
Decimal Dungeon	Educational junior high 5th	59.95
Discovery Maths	Educational fun	69.95
Discovery Spelling	Educational fun	44.95
First Shapes	Early learning	49.95
Fraction Action	Educational 5th grade and up	69.95
Funschool Series	Six games full of learning	49.95
Gold of Americas	Historical simulator	44.95
Intellitype	Quality typing tutor	49.95
Kid Talk	Quality educational software	49.95
Kids Collection	Educational fun	59.95
Kindermate	Educational preschool age	69.95
Match It	Match shapes and colours	49.95
Math A Magician	Maths educational	49.95
Math Talk	Quality educational	44.95



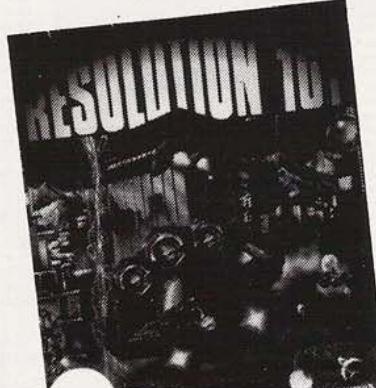
Flight Simulator Scenery Disk	Japan, Europe, USA	49.95
Flight Simulator 2	Professional simulation	79.95
Horse Racing	3D animated racing fun	69.95
Hunt for Red October	The game of the famous movie!	49.95
North & South	Quality action/simulator	59.95
RVF Honda	Motorbike racing	49.95
Their Finest Hour	WW2 dog fighting simulator	59.95

STRATEGY

Cyberball	Future sports game with robots	49.95
Grand National	Horse racing and jumping	49.95
688 Attack Sub	Amazing sub battle simulator	49.95
Balance of Power 1990	Excellent political strategy	69.95
Battle Chess	3D animated chess	69.95
Bloodwynd	One or two player role-playing	59.95
Chessmaster 2000	Best quality 3D chess ever	54.95
Dragon Force	Combat team sci-fi	69.95
Fighter Bomber	Voted best game! Combat simulator	49.95
Hillstar	D&D strategy	49.95
Laser Squad	Combat team simulator	64.95
Midwinter	3D strategy game epic!	79.95
Nuclear War	Crazy global war game	54.95
Omega	Design and test your own tank	59.95
Populous	Control the masses	49.95
Red Lightning	1990s war strategy	64.95
Sherman M4	Fantastic 3D tank game!	49.95
Solitaire Royale	Compilation card games	49.95
Star Command	Deep space adventure	49.95
Starflight	Space strategy	49.95
Trump Castle	Gambling compilation	49.95
Ultima 4	Heavy D&D strategy	79.95
Vegas Gambler	Collection of casino hits	54.95
War Head	3D space strategy	59.95
Xenomorph	3D space strategy	59.95

UTILITIES

A Talk 3	Complete professional comms pack	99.95
AC Basic	Quality basic compiler	379.00
Amos	New programming language	129.95
Arexx	Programming interface language	89.95
Audio Engineer	Quality sound editor	199.00
B.A.D.	Floppy disk optimizer	84.95
Can Do	Create stand alone software via icons	229.95
Cross Dos	Read/write msdos files	49.95
Cygnes Ed Professional	Programmers editor	149.95
Devpac	Programmers assembly language	179.95
Digitmate 3	H.a.m. animation toolkit	44.95
Disk Master	High quality file utility	79.95
Dos 2 Dos	Convert IBM/Amiga files	79.95
GPTerm	Comm's with Viatel	99.95
KDV	Great new virus control package	24.95
Lattice C Development V5	C compiler	449.00
Marauder 2	Disk copier	74.95
Mega Dos	Amiga dos tutorial	19.95
Megadisk	Vol. 2 thru to 17 available	19.95
Perfect Sound A500/2000	New version!	219.95
Quarterback	Hard drive back up tool	99.95
Superback	Hard disk backup	99.95
X Copy + Hardware	Backup your games	99.95



Prices subject to change without notification

AMIGA HARDWARE

40 meg SCSI h/d Quantum	Voice coil, auto-park 11-18ms	749.00
80 meg SCSI h/d Quantum	Voice coil, auto-park 11-18ms	1249.00
105 meg h/d Quantum	Voice coil, auto-park 11-18ms	1429.00
8UP Memory Board 2 meg ram	A2000 ram exp. board	899.00
A1000 Printer Cable	Special cable	49.95
A2000 2nd Drive	Suits Amiga 2000 internal	199.00
A2000 68030 28MHz/40Mb Quantum	Power accel. board for A2000	2390.00
A590 Exc. Disk Drive	SCSI controller + 2 ram options	599.00
Adram 520 ram 1 mb installed	A500 2 meg ram (1 meg installed)	399.00
Amiga Emulator and Chip	Amiga Macintosh emulator	499.00
Amiga 2000 h/d cont. 2090	ST506 and SCSI controller	499.00
Amiga 500 Computer	A500 CPU and mouse only	799.00
Amiga 500 RF Modulator	Connect Amiga to TV or video	59.95
Amiga A690 20 mb h/d	Suits Amiga 500	799.00
Camera Hitachi HV720 with lens	Suits Amiga Digiview	599.00
Camera WV1410 with lens	For Digiview Amiga	599.00
Comidi Amiga	Quality Amiga midi	159.00
Comidi Mini	Budget midi interface	79.95
Computer Amiga 2000	A2000 CPU only	1895.00
Computer Amiga 2000HD (40mb h/d)	40 meg drive factory fitted!	2895.00
Deluxe Kit Amiga 500	Latest A500 power kit!	1099.00
Flicker Fixer	Requires multisync monitor	799.00
Future Sound A500	High quality sound digitizer	229.95
Genlock Rendale A8802	Quality genlock, suits all Amiga	599.00
Genlocker Magni 4005	Professional broadcast quality	
Genlock Vidtech	Broadcast quality VHS S/VHS	2295.00

PERIPHERALS

Joystick Bathandle	Heavy duty, super high quality	49.95
Joystick Stik Stik	Quality budget joystick	14.95
Joystick Tac 2	Quality product 2 yr warranty	49.95
Joystick Tac 30	Quality budget joystick C64/Amiga	34.95
Joystick Zoomer	Steering wheel joystick	69.95

Impact A2000 SCSI 2M ram Bare Hard disk controller	670.00	
Impact A500 45 mb h/d Auto-Boot GVP top quality h/d for A500	1595.00	
Master Sound	Quality sound sampler and software	79.95
Modem Avtek Mega 1234	Quality 2400 baud modem	399.00
Monitor CBM 1084S	Stereo, suits Amiga, C64 and PC	449.00
Mouse Amiga Bus	The best Amiga mouse!!!	49.95
Mouse Naksha	High quality suit Amiga, PC	129.00
PC Emulator Bridge Board XT	Int. 5.25" drive and 3.2 dos	799.00
PC Emulator Bridge Board AT	Int. 5.25" 1.2 meg drive	1399.00
Philips Monitor (CM8833)	Stereo, 2 yrs warranty!	489.00
Printerface	Budget lo-res rgb monitor	399.00
RF542C Amiga Disk Drive	2nd parallel port for Amiga!!!	179.00
RF542C 5.25 Amiga Disk Drive	Slim external drive on/off switch	199.00
RM5500 RAM Expansion 512K	Use all those old C64 disks!	249.00
Trump Card	Int. battery backed-up clock	189.00
Trump Card A500	Quality SCSI controller	369.00
Autoboot SCSI controller	Autoboot SCSI controller	495.00
Vidi Amiga	Budget lo-res rgb monitor	399.00
Vo Rec One	Excellent b/w frame grabber Pal	399.00
	Voice recog. hardware and software	229.00

PC HARDWARE

3.5 144 meg Floppy Drive	Internal PC drive	249.00
40 meg h/d ST ST250R Kit	For all PCs upgrade now!	575.95
PC 360K drive	PC 360K drive	199.95
CBM CGA Monitor	Provides 4 colour PC CGA mode	449.00
CBM EGA Monitor + EGA Card	16 colour hi-res on your PC	799.00
VGA Monitor + VGA Card	256 colours on your PC!!!	899.00
CGA Card	Suits most popular PC computers	59.95
EGA Card	Suits most popular PC computers	169.95
VGA Card	Suits most popular PC computers	269.95
Joystick Analog Plus IBM	Quality joystick	59.95
Joystick Analog Extra	Superb PC joystick	64.95
Joystick Analog Edge	IBM joystick	59.95
Mouse GMF301 PC	Quality mouse and s/ware pack + mat	159.95
Genius PC Mouse	Serial mouse and software	89.95
Sound Blaster Card	Magnificent PC sound add-on!	399.00
Turtle Card	Joystick port for PC	44.95
Quickshot Game Pack	Joystick and games port card	59.95
Vidi PC	IBM PC frame grabber/digitizer	449.00

IBM SOFTWARE

ART AND GRAPHICS

Autodesk Animator	Professional graphics/animation	460.00
Autosketch	Structured graphics editor	289.95
Bannermania	Signs, banners, etc.	69.95
Deluxe Paint 2	Graphics design package	295.00
Deluxe Paint 2 Enhanced	Quality graphics des. needs mouse	229.95
Fantavision	Graphics and animation	99.95
Looney Tunes Print Kit	Graphics and printing	29.95
Print Shop	Print cards, banners, signs	89.95
Print Shop Library	Additional graphics	54.95
Splash	Vga graphics editor	199.95

ARCADE

Death Track	3D racing action	69.95
Double Dragon 2	Arcade action	59.95
Ghosts and Goblins	Classic arcade fun	59.95
Harley Davidson	Motorbike simulator	59.95
Pipe Mania	Crazy new smash hit!	59.95
ShuttlePuck Cafe	Air hockey game	59.95
Sky Chase	Fast 3D flight combat	59.95
Street Rod	Great hot rod racing fun	54.95
Stunt Car Racer	Superb 3D car racing	69.95
Teenage Mutant Ninja Turtles	The craze continues	69.95

ADVENTURE

Bald Blood	Role playing adventure	59.95
Bards Tale 2	Role playing adventure	64.95
Castle Master	3D dungeon adventure	69.95
Champions of Krynn	Latest role playing D&D	54.95
Codename Iceman	Superb action adventure game	69.95
Colonel's Bequest	Epic adventure game	69.95
Conquest of Camelot	Superb sierra adventure	69.95
Crime Wave	Vga adventure game	69.95
David Wolf Secret Agent	Graphic adventure game	69.95
Die Hard	Movie action adventure	59.95
Dragon Wars	Dungeons and dragons	59.95
Dragons of Flame	Role playing epic	64.95
Dragonstrike	Role playing epic	64.95
Drakken	Dragons and knights	79.95
Escape from Hell	Horror adventure	54.95
Faery Tale	3D adventure	49.95
Heroes Quest	New sierra adventure	69.95
Hillsfar	Tune your D&D players	69.95
Indiana Jones Last Crusade	3D adventure	79.95
Keys to Maramon	Role playing adventure	69.95
Kings Quest 4	Epic sierra adventure	79.95
Kings Quest Triple Pack	1, 2, 3 of the series	54.95
Legacy of Ancients	D&D adventure	64.95
Leisure Suit Larry 2	Adult adventure	54.95
Leisure Suit Larry 3	A fine addition	59.95
Loom	Epic sized role playing great	69.95
Might and Magic 2	Role playing adventure	69.95
Mines of Titan	Role playing adventure	69.95
Nightmare on Elm St	New horror adventure	59.95
Pirates	Excellent role playing adventure	49.95
Police Quest 2	Sierra adventure	59.95
Romance of 3 Kingdoms	Epic sized role playing	109.95
Sleeping Gods Lie	3D role playing quest	79.95
Sorcerian	Monster sized role playing epic	69.95
Space Quest 3	Sierra adventure	54.95
Star Trek 5	Movie adventure	69.95
Sword of Aragon	Dungeon quests never end	54.95
Sword of Samurai	Kung fu action	89.95
Tunnels of Armageddon	3D sci-fi adventure	54.95
Ultima 6	The deepest you can go!	84.95
Ultima Trilogy	1, 2, 3 in the series	79.95

BUSINESS

Attache 4	Accounting package	890.00
B.E.S.T. Accounting	Accounting	595.00
Data Manager	Simple quality database	59.95
DBase 4	Superior database	590.00
Home Accounts	Bookkeeping package	89.95
Lotus 123	Powerful spreadsheet	995.00
Microsoft Word	Quality word processor	670.00
Mini Office Professional	Quality 4 in 1 business package	144.95
Multimate Adventure 2	Professional business	899.00
On Balance	Cash book	89.95
Open Access 2 Plus	Professional business	1130.00
Publish It	Quality desk top publishing	299.95
Publish It Lite	Budget dtp package	99.95
Swiftcalc	Quality spreadsheet	69.95
System 3	Complete small business package	129.95
Ventura Publisher V2.0	Top class dtp package	1495.00
Word Perfect 5.1	Professional wordprocessor	79.95
Word Writer	Quality word processor	79.95
Wordstar Professional	Word processing	670.00

SIMULATIONS

688 Attack Sub	Submarine simulation	54.95
Chuck Yeager's Flight Sim. 2	Flight simulator	69.95
Cycle Inter. Grand Prix	Motorcycle racing	59.95
F15 Strike Eagle	Combat simulator	59.95
F15 Strike Eagle 2	Combat simulator	69.95
F16 Combat Pilot	Combat simulator	59.95
F16 Falcon	Fighter plane simulator	69.95
F19 Stealth Fighter	Complex fighter simulator	109.95
Falcon At	Quality fighter simulator	69.95
Fighter Bomber	Voted #1 combat simulator	69.95
Heat Wave Off Shore Boating	Boat racing	59.95
Horse Racing	Betting game	69.95
Hunt for Red October	The game of the famous movie!	49.95
Indianapolis 500	Best car racing we've ever seen!	64.95
LHX Attack Chopper	Helicopter combat	79.95
Sherman M4	3D tank simulator	49.95
Vette	Street racing simulator	69.95
Wolfpack	Submarine war games	94.95

STRATEGY

A10 Tank Killer	Tank busters	69.95
Abrams Battle Tank	War strategy	64.95
Ancient Art of War	Historic strategy	79.95
Ancient Art of War at Sea	Historic strategy	79.95
Ancient Land of Ys	D&D adventure	89.95
Austerlitz	Historic war gaming	69.95
Balanced Power 1990	Political simulator	69.95

Prices subject to change without notification

UTILITIES

Coastal	High quality hard disk backup	89.95
Dos RX	Hard disk utilities	64.95
Microsoft Quick C	Programming language	194.95
MS Dos 4.01	Dos upgrade	249.95
MS Windows V3.0	Great PC tool	229.95
Norton Commander 3.0	Quality PC tools	249.95
Supercam	Quality comms package	119.95
Swimwear	Pinup girls calendar maker	19.95
Turbo Pascal	Programming language	174.95
Xtree Pro Gold	Quality PC tool	229.95

with existing software, and also makes it very easy to write or modify existing programs to make the most efficient use of the HD. All of these commands can be entered directly or from within a program.

Other Features

SWAP: This is a function controlled by pressing a button on the front of the hard drive. What it does is to easily allow you to swap the hard drive's device number with whatever device is currently assigned to device 8 (or 9).

As an example assume you have set your HD as device #10 and there is a 1541 on the serial bus designated as drive #8. When the swap 8 is pressed the HD becomes drive #8 and the 1541 will become drive #10.

While this doesn't appear to achieve much on the surface, it is a very powerful feature, eg with software that only recognises drives 8 and/or 9 you can use the swap function to make the HD drive 8 (or 9) before loading the software (if the program is on the HD) or after loading if the program is copy protected and cannot be moved onto the HD.

CLOCK: The HD is equipped with a real time battery backed clock so that the clock will continue keeping time even when the drive is turned off or disconnected from the power supply. This clock is accurate and also maintains the date (date/month/year). This can be read and used from BASIC. I have modified my BBS program to make use of this clock so that I don't have to reset the system clock every time I reboot the BBS.

TIME & DATE: Any time a file is saved to the HD it is time and date stamped, so you can see at a glance when a program was last saved. You can also view the directory using the time/date stamping for a selective directory - it is easy to find all files saved to the HD before, after, or in between any given times or dates. This information can be invaluable, especially with the BBS where files are continually saved without any intervention on my part. It also makes maintaining back-up files very easy, because all I am required to do is keep a note of the last time I made a backup, then do a selective directory search of anything saved after that time/date and only back up those particular files.

The CMD HD's are not for everyone, (the cost is a lot more than the cost of the original computer that it is designed for). But if anyone has a need for a very large storage capacity drive, then the CMD HD is more than capable of performing the job required of it. I would personally recommend this unit as it does what it is supposed to do and it does it well. It has a lot of features not available with other drives, and CMD seem dedicated to continuing support for the C64/128.

The ability to have up to 255 1571 disk drives at my disposal at "the touch of a button", without the need to sort through heaps of floppies, makes my system a dream to use, and brings my C128 into the realms of being a true workhorse that even Commodore never dreamt of.

And I can still play one of the many thousands of C64 games.

CMD hard drives are imported by Hardware Peripheral Distributors, 5 Railway Terrace, Dry Creek, SA, phone (08) 349 8486. The cost is approx \$1100 for 20 meg version, approx \$1500 for 40 meg version, price unknown for the 100 meg.

If anyone has any other queries or questions regarding this drive I can be contacted on Thistle Dome BBS phone (08) 322 2716 24hrs/7days, modem speeds 300/300, 1200/1200, 1200/75, 2400/2400.

POWER HUNGRY? WANT TO CONTROL YOUR AMIGA?

Now you can create your own GAMES, GRAPHICS, PRESENTATIONS and EDUCATIONAL PROGRAMMES without any programming experience.

It's NEW, it's ULTRA FAST, it's EASY to USE and it's here!!



by BLACK BOX SOFTWARE.

UNLEASH THE AWESOME POWER OF YOUR AMIGA HARDWARE!!!

BLITZ BASIC puts you in control over the Amiga's GRAPHICS CHIPS. Not just another s-l-o-w interpreter programme like others on the market, BLITZ BASIC is a FULLY INTEGRATED BASIC programming language that makes you the expert. Spectacular graphics can be generated with a minimum of commands. Programmes generated are LIGHTNING FAST and FREELY DISTRIBUTABLE with the RUN TIME LIBRARY INCLUDED on BLITZ BASIC.

BLITZ BASIC enables you to produce QUALITY COMMERCIAL CODE that can run FASTER THAN 'C', yet is so SIMPLE TO USE that you are now able to take control of your Amiga's hardware powers.

FEATURES:

- * LIGHTNING FAST COMPILER - 6,500 lines/minute.
- * BLINDLY FAST OPTIMISED OBJECT CODE. Complete re-write of AMIGA LIBRARIES. Where AmigaDOS takes 5 Blits to move an object, BLITZ BASIC does it with one.
- * INTEGRATED EDITOR/COMPILER.
- * SPECIAL EFFECTS such as FADE IN, FADE OUT and many more.
- * Basic commands to handle IFF pictures, BRUSHES, ANIM BRUSHES, and SOUND samples.
- * Handles DUAL PLAYFIELDS, EHB and HAM with speed and ease.
- * DIRECT ACCESS to and CONTROL OF SPRITES (16 colours).
- * DIRECT CONTROL OF BLITTER and COPPER CHIPS.
- * DIRECT CONTROL OF AUDIO HARDWARE.
- * Brilliant new QUEUE SYSTEM makes Blits ~s easy to programme as Sprites.
- * Display UNLIMITED SCREENS, as memory allows, IN ANY SIZE.
- * Includes single-action SMOOTH SCROLLING of screens.
- * SUB-ROUTINES can be run off VERTICAL INTERRUPT.
- * DOUBLE BUFFERING/PAGE FLIPPING/VERTICAL SCREEN UPDATES
- * An entire SOUND SEQUENCER is included
- * BUILT-IN DISK FUNCTION LIBRARIES.
- * ABILITY FOR MACHINE LANGUAGE PROGRAMMERS TO ADD their own commands.

BLITZ BASIC is available now. Includes membership on our international BBS located in USA, Australia and West Germany. Send \$5 for the best Public Domain disk available - a sampler disk packed full of BLITZ BASIC DEMOS including source code.

Find out just how powerful you can be!

Black Box Software

Distributed by M.A.S.T.

19-21 Buckland St. Broadway. N.S.W. 2007 PH: (02)281-7411

RRP \$149

TOMORROW'S PERIPHERALS

45MB TINY TIGER II \$1099 PORTABLE SCSI HARD DRIVE

Tiny Tiger is a high performance SCSI Hard Drive System for the Amiga. Features include:

- PORTABLE - plugs directly into all models of the Amiga through M.A.S.T.'s exclusive parallel port SCSI interface included FREE with each Tiny Tiger
- RELIABLE - Fujitsu mechanisms mean superior performance and 12 months to 5 year warranties
- VERSATILE - plugs into any SCSI interface if you do not wish go through the parallel port interface included. May be used STANDALONE or daisychained to other systems e.g. A590 or Fireball Hardcard
- FUNCTIONAL - Front panel displays SCSI address, status of parity, write-protect, drive select, drive termination and auto power.
- ATTRACTIVE - comes in sleek, beige case
- READY TO GO - all software and cabling included - just power up and Tiny Tiger is ready to roar.
- AFFORDABLE - the best system for the best price

45MB \$1099

90MB \$1549

136MB \$1849

182MB \$2199

PERFORMANCE BREAKTHRU

FIREBALL A2000 SCSI HARDCARD

• 650K BYTES/SEC SUSTAINED		\$299
• UNIQUE WORD-LOCK DMA		
• TURBOCHARGED WITH MAST		
THROTTLE MODE DMA		
• AUTOBOOTING (may be switch disabled)		
• STATUS LEDs		
• COMPATIBLE WITH SYQUEST		
• RELIABLE - uses finest quality		
Fujitsu drives		
• ECONOMICAL -		
Fireball + 45MB \$999	+ 90MB \$1549	
+ 136MB \$1849	+ 182MB \$2129	
+ 672MB \$5249		
+ 44MB Removable \$1369		

SCSI HARD DRIVES

45MB 12ms Fujitsu	\$799
90MB 11ms Fujitsu	\$1299
136MB 11ms Fujitsu	\$1599
182MB 11ms Fujitsu	\$1849
672MB 10ms Fujitsu	\$4950
44MB Removable	\$1099
Cartridges	\$189

MEMORY EXPANSION

FOR A500:

MICROMEWS - 512k RAM \$139
512k RAM with clock/calendar - A501 clone

MINIMEGS - 2MB FAST RAM \$499
external, "pocket-size", plug and go

MAXIMEGS - 2.3MB RAM - plugs into A501 slot. Gives up to 2MB of GRAPHICS RAM by utilising block switching. See ad May A/W.
Available soon.

QUATROMEWS - 4MB RAM - plugs into A501 slot. Gives up to 4MB of RAM.

2MB \$589 4MB \$CALL

FOR A1000:

MINIMEGS - 2MB FAST RAM \$499

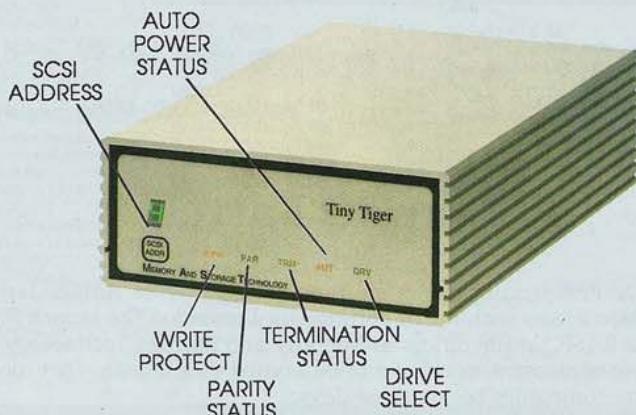
FOR A2000:

OCTOPLUS - 8MB FAST RAM with 2MB \$499

SIMM MODULES - 1x8-80ns for GVP cards

RAM CHIPS - call for latest pricing

TODAY...



ATTENTION READERS: We have a factory in the U.S. and air-import Amiga hardware and software every week. We carry a range of business, utility, graphics and entertainment software at the LOWEST PRICES. If you find a cheaper genuinely advertised price in this magazine, we will beat it - GUARANTEED!

AMIGA HARDWARE & SOFTWARE TITLES

A-Max	\$259	BOING! \$189
AmiAlignment	\$57	OPTICAL MOUSE
Animagic	\$139	3 BUTTON, X-WINDOWS COMP.
Animales 3D	\$22	
AreaX 1.06	\$65	
B.A.D.	\$69	
Can Do	\$189	
Copyist Prof.-Dr.T.	CALL	
Deluxe Paint III	\$229	
Deluxe Video III	\$166	
DigiPaint 3	\$123	
DigiView GOLD 4.0	\$279	
-Camera + Lens	\$549	
Excellence	\$269	
Express Copy	\$69	
Express Paint V1	\$69	
Lattice C V5	\$409	
Pagestream	CALL	
Pagestream Fonts	\$52	
Pen Pal	\$175	
Pixmate	\$69	
Prof Page	CALL	
Quarterback	\$85	
Text-Ed Plus	\$109	
Turbo Silver	\$275	
TV Show Professional	CALL	
TV Text Professional	*	
Video & Anim Backgr.	\$46	
Video Effects 3D PAL	\$329	
Videoscape 3D	\$215	
Video Tiler	\$163	
WShell	\$69	
X-CAD Designer	\$163	
X-CAD Prof.	CALL	
X-Copy	\$43	
MONITORS - 16" / 22"	CALL	
MOUSE MATS	\$8, \$12	
MOUSE WASHERS		

SUPER PRICES!

Easy! \$699

GRAPHICS PAD - A500/1000/2000

PERFECT SOUND \$139

A-MAX \$259

DIGIVIEW 4.0 \$269

EXTERNAL DRIVE \$159

DISKETTES
3.5" bulk Sony
Colour \$1.50 ea.



ENHANCED UNIDRIVE \$199.95

with TRACK LED DISPLAY, HARDWARE WRITE/VIRUS PROTECT,

PASS-THRU, ON-OFF SWITCH, SUPER LOW POWER, NO-CLICK

UNIDRIVE - pass-thru, switch \$169.95

A2000 internal drive - no-click \$149.00

AMIG-a-TOSH MAC drive \$299.00

M.A.S.T. Technical Excellence

MEMORY AND STORAGE TECHNOLOGY

19-21 BUCKLAND ST. BROADWAY. 2007 TEL: (02)281-7411 FAX (02)281-7414

We preview Blitz BASIC

by Andrew Farrell

After spending a lot of time playing with AMOS last month, it was with much enthusiasm I attended the launch of Blitz BASIC at the offices of Memory and Storage Technology. It was a pleasant to change to be invited to a launch - not too many companies bother these days.

Blitz BASIC was developed in New Zealand by a very talented young programmer, Mark Sibly, who at 22 years of age has some ten years' programming experience.

He started out with a Tandy TRS-80 - a horrible old black and white chunky graphics machine. Mark moved on to the Apple II, then the Vic 20, and the C64. Now he plays with the Amiga and in his spare time churns out powerful programming languages which although resembling BASIC, enable you to write programs which look more like *Defender*.

Blitz is fast. Blitz takes over your Amiga and provides a group of game and graphics oriented commands which in a few lines of code can make your Amiga do somersaults. At the launch, a small group of serious Amiga-heads watched in awe as the aforementioned *Defender* game played fairly much like the arcade original. The one change was that it now works with two players at a time in a split screen environment. Blitz handles screens which may be divided up many times with each strip displaying a different Amiga graphics mode.

There are commands to handle everything you need to make a top class game. Blitz works better than alternative BASICs because it is so much faster and includes a built in compiler. The user interface provides a powerful text editor which can be used to launch other Amiga programs, such as *Deluxe Paint III*, for times when you are developing on the fly. ANIM brushes are fully supported too!

The resulting compiled code may be freely redistributed.
(A demonstration disk is available, which is well worth getting - try (02) 281 7411 or your local supplier of PD software.)

Blitz Basic provides a lot of low level power. Compared to AMOS it is a faster, tighter language. However, it lacks some of the more high-level commands which AMOS has. There is no support for relative files, no easy way to create screen gadgets and no structured programming commands. But, Blitz Basic comes with snappy demonstrations which seem to prove the theory that you don't need a big powerful language to write good games. A small rocket may be better than a jumbo if you're in a hurry - and games need to happen fast!

I recommend you take a close look at Blitz. Some sample code is included below. Blitz Basic should be in shops over the next few weeks. Watch for a full review next issue.

A slice out of the middle of the *Defender* game code...

```
DISPLAY 320,28,0,1,0,4,5  
SHOWF 4:SHOWB 5  
PLOAD "ram:scancols.def",0,0,0  
USE SCREEN 4  
USE SCREEN 5:PLOAD "ram:scorebar.def",0,0,8
```

```

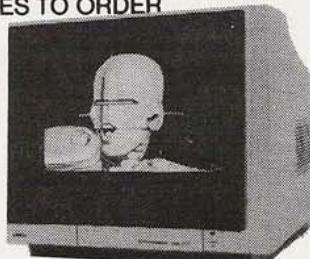
SLICE 2,s12:USE SLICE 2:SPRITE 0:GOSUB colrmnts
DISPLAY 288,96,0,1,1,2,6
SHOWB 6:SHOWF 2,32,16
GOSUB makemnts
j=0 TO 2 STEP 2
USE SLICE j
IF j=2 OR gmode>0
  a=0 TO 12 STEP2:RGB 15,15-a,15-a,15-a,a/2+16:NEXT:RGB
  15,0,0,0,16+7
  IF j=0
    a=0 TO 12 STEP2:RGB 15,15,15-a,0,a/2+24:NEXT:RGB
    15,0,0,0,24+7
  ENDIF
  a=0 TO 12 STEP2:RGB 15,15-a,15-a,15-a,a/2+32:NEXT:RGB
  15,0,0,0,32+7
  IF j=2
    a=0 TO 12 STEP2:RGB 15,0,15-a,15,a/2+40:NEXT:RGB
    15,0,0,0,40+7
  ENDIF
ENDIF
a=0 TO 31:RGB a,0,0,0:NEXT
NEXT:COLOUR 7:RGB 0.0.0.0.96

```

HI-TEK MONITOR FILTER

**COMMODORE 1081: 1084: PHILIPS 8833: 8854:
ALL OTHER TYPES TO ORDER**

Our high quality filters are made from optical quality 3mm Acrylic specially tinted. It's unique filtering qualities have been extensively tested and approved by Amiga user groups, doctors and government offices.



Made in Australia. 10 year guarantee.

\$39.95 inc P & P

- TOTALLY ELIMINATES MONITOR GLARE.
- RESOLVES LONG EXPOSURE ADVERSE EFFECTS.
- PROTECTS FROM R.S.I. EYE STRAIN.
- ENHANCES ON SCREEN COLOURS.
- INCREASES IMAGE SHARPNESS.
- MAKES INTERLACE MODE VIABLE

HARRIS HI-TEK PTY. LTD.
P.O. Box 112 Erina N.S.W. 2250
Tel: 02 671-1856 or Fax: 043 85-2051

MONITOR TYPE

PLEASE DEBIT MY
PAYMENT: PLEASE INDICATE METHOD CREDIT CARD

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> CHEQUE - P.O.			EXPIRY DATE <input type="text"/> <input type="text"/>		
MR/M'S/MRS	SURNAME	INITIALS	SIGNATURE		
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
ADDRESS <input type="text"/>			POST CODE <input type="text"/>		

Maxwell's 24 HOUR MAIL ORDER

SOFTWARE ★ GALORE

GUARANTEED SERVICE ★ SAME DAY DESPATCH*

SOFTWARE... FIRST WITH THE LATEST... NEW TITLES DAILY

1000's OF TITLES ★ AMIGA ★ IBM 5.25" AND 3.5" ★ C 64 ★ C 128

★ C64 TOP HITS ★

DYNASTY WARS	✓ 36.95	CASINO GAMBLING	59.95
E16 COMBAT PILOT	49.95	CASTLE WARRIOR	69.95
ESCAPE ROBOT MONSTERS	39.95	CHASE HO	59.95
FLIMBO'S QUEST	39.95	CINEMAWAR 3-IN-1	79.95
INTERNATIONAL 3D TENNIS	39.95	CLASSIC INVADERS	36.95
KLAX	39.95	CLOUD KINGDOMS	59.95
SECRET OF SILVER BLADES	39.95	COMBO RACER	59.95
SKI OR DIE	29.95	CONFIDENTIAL	44.95
STREET ROD	✓ 36.95	COLOSSUS CHESS	44.95
VENDETTA	36.95	CONFLICT EUROPE	59.95
WHEEL OF FORTUNE II	29.95	CONQUEROR	59.95
ZOMBI	✓ 36.95	COURTROOM	74.95
		COSMIC PIRATE	59.95
		CRAPS ACADEMY	59.95
		CROSSBOW - LEGEND OF TELL	54.95
		DAMOCLES	✓ 54.95
		DAN DARE III	49.95
		DAY OF THE PHARAOH	59.95
		DAY OF THE BEAST	59.95
		DAY OF THE VIPER	✓ 59.95
		DELUXE STRIP POKER	49.95
		DOGS OF WAR	44.95
		DOUBLE DRAGON II	54.95
		DR PLUMMETS HSE OF FLUX	49.95
		DRAGONS BREATH	79.95
		DRAGONS OF FLAME	49.95
		DRAGONS LAIR II	89.95
		DRAGONS LAIR	49.95
		DUAL PACK LEADERBOARD	49.95
		DUNGEON MASTER ASSISTANT	49.95
		DUNGEON MASTER EDITOR	49.95
		DUNGEON QUEST	159.95
		FIENDISH FREDDY	69.95
		DYTER 07	59.95
		FIRE & BRIMSTONE	59.95
		FIRST CONTACT	59.95
		FIRING PERSON PINBALL	49.95
		FLIGHT SIMULATOR II	49.95
		FLOOD	49.95
		FOOTBALLER OF THE YEAR	99.95
		FULL METAL PLANET	49.95
		PAGESETTER II	199.00
		PAGESTREAM LONT 8-12 EA	50.95
		PAGESTREAM LASER FNTS A	50.95
		PAGESTREAM LASER FNTS B	54.95
		PAGESTREAM V1.6	29.95
		PEN PAL	199.00
		PROFESSIONAL PAGE 1.3	399.00
		PRO PAGE TEMPLATES	49.95
		PRO-WRITE VER 3.0	199.00
		PURCHASES CHOICE	199.95
		SUPERBASE PERSONAL	159.95
		SUPERBASE PERSONAL II	199.95
		SUPERBASE PROFESS V3	399.00

AMIGA DATABASE

DATA RETRIEVE	99.00
FREELANCE	49.95
MAILSHOT	99.00
SUPERBASE PERSONAL	159.95
SUPERBASE PERSONAL II	199.95
SUPERBASE PROFESS V3	399.00

AMIGA WORD PROC.

ELECTRA SPELL CHECKER	49.95
KINDWORDS V2.0	99.95
MEDIA LINE FONTS	49.95
PAGESETTER II	199.00
PAGESTREAM LONT 8-12 EA	50.95
PAGESTREAM LASER FNTS A	50.95
PAGESTREAM LASER FNTS B	54.95
PAGESTREAM V1.6	29.95
PEN PAL	199.00
PROFESSIONAL PAGE 1.3	399.00
PRO PAGE TEMPLATES	49.95
PRO-WRITE VER 3.0	199.00
PURCHASES CHOICE	199.95
SUPERBASE PERSONAL	159.95
SUPERBASE PERSONAL II	199.95
SUPERBASE PROFESS V3	399.00

AMIGA SPREADSHEET

ADVANTAGE	299.00
ANALYSE II	139.00
HALCALC	99.00
MAXPLAN PLUS V1.9	199.00
MAXPLAN III	TBA
SUPERPLAN	199.00

AMIGA GAMES

AFRICAN RAIDERS	49.95
AFTER THE WAR	54.95
A.M.C.	69.95
AMIGA CHAMPIONS	59.95
A.P.B.	49.95
AQUANAUT	49.95
ARMADA	49.95
BALANCE OF POWER 1990	69.95
BAND OF KINGS ANCIENT CHINA	49.95
BARD'S TALE	49.95
BASKETBALL	49.95
BATMAN THE MOVIE	49.95
BATTLEHAWKS	59.95
BEACH VOLLEYBALL	59.95
BEVERLEY HILLS COP	54.95
BEYOND THE ICE PALACE	44.95
BILLARDS 3D	52.95
BLIZZARD'S TIGER	49.95
BLUDGEON	69.95
BLITZKrieg ARDENNES	49.95
BLOCKOUT	49.95
BLOODWYCH	59.95
BLOODWYCH DATA DISK	39.95
BLUE ANGELS	59.95
BOMBER	59.95
BRIDE OF THE ROBOT	54.95
BRIDGE PLAYER 2000	54.95
BUDOKAN	59.95
CABAL	49.95
CADAVER	59.95
CARRIER COMMAND	59.95
CHASE HO	59.95
CHINESE WARRIORS	59.95
CLASH OF CLANS	59.95
COLONIAL WARRIOR	59.95
COMBAT SHOOTER	59.95
CONFIDENTIAL	44.95
CONFIDENTIAL 2	59.95
CONFIDENTIAL 3	59.95
CONFIDENTIAL 4	59.95
CONFIDENTIAL 5	59.95
CONFIDENTIAL 6	59.95
CONFIDENTIAL 7	59.95
CONFIDENTIAL 8	59.95
CONFIDENTIAL 9	59.95
CONFIDENTIAL 10	59.95
CONFIDENTIAL 11	59.95
CONFIDENTIAL 12	59.95
CONFIDENTIAL 13	59.95
CONFIDENTIAL 14	59.95
CONFIDENTIAL 15	59.95
CONFIDENTIAL 16	59.95
CONFIDENTIAL 17	59.95
CONFIDENTIAL 18	59.95
CONFIDENTIAL 19	59.95
CONFIDENTIAL 20	59.95
CONFIDENTIAL 21	59.95
CONFIDENTIAL 22	59.95
CONFIDENTIAL 23	59.95
CONFIDENTIAL 24	59.95
CONFIDENTIAL 25	59.95
CONFIDENTIAL 26	59.95
CONFIDENTIAL 27	59.95
CONFIDENTIAL 28	59.95
CONFIDENTIAL 29	59.95
CONFIDENTIAL 30	59.95
CONFIDENTIAL 31	59.95
CONFIDENTIAL 32	59.95
CONFIDENTIAL 33	59.95
CONFIDENTIAL 34	59.95
CONFIDENTIAL 35	59.95
CONFIDENTIAL 36	59.95
CONFIDENTIAL 37	59.95
CONFIDENTIAL 38	59.95
CONFIDENTIAL 39	59.95
CONFIDENTIAL 40	59.95
CONFIDENTIAL 41	59.95
CONFIDENTIAL 42	59.95
CONFIDENTIAL 43	59.95
CONFIDENTIAL 44	59.95
CONFIDENTIAL 45	59.95
CONFIDENTIAL 46	59.95
CONFIDENTIAL 47	59.95
CONFIDENTIAL 48	59.95
CONFIDENTIAL 49	59.95
CONFIDENTIAL 50	59.95
CONFIDENTIAL 51	59.95
CONFIDENTIAL 52	59.95
CONFIDENTIAL 53	59.95
CONFIDENTIAL 54	59.95
CONFIDENTIAL 55	59.95
CONFIDENTIAL 56	59.95
CONFIDENTIAL 57	59.95
CONFIDENTIAL 58	59.95
CONFIDENTIAL 59	59.95
CONFIDENTIAL 60	59.95
CONFIDENTIAL 61	59.95
CONFIDENTIAL 62	59.95
CONFIDENTIAL 63	59.95
CONFIDENTIAL 64	59.95
CONFIDENTIAL 65	59.95
CONFIDENTIAL 66	59.95
CONFIDENTIAL 67	59.95
CONFIDENTIAL 68	59.95
CONFIDENTIAL 69	59.95
CONFIDENTIAL 70	59.95
CONFIDENTIAL 71	59.95
CONFIDENTIAL 72	59.95
CONFIDENTIAL 73	59.95
CONFIDENTIAL 74	59.95
CONFIDENTIAL 75	59.95
CONFIDENTIAL 76	59.95
CONFIDENTIAL 77	59.95
CONFIDENTIAL 78	59.95
CONFIDENTIAL 79	59.95
CONFIDENTIAL 80	59.95
CONFIDENTIAL 81	59.95
CONFIDENTIAL 82	59.95
CONFIDENTIAL 83	59.95
CONFIDENTIAL 84	59.95
CONFIDENTIAL 85	59.95
CONFIDENTIAL 86	59.95
CONFIDENTIAL 87	59.95
CONFIDENTIAL 88	59.95
CONFIDENTIAL 89	59.95
CONFIDENTIAL 90	59.95
CONFIDENTIAL 91	59.95
CONFIDENTIAL 92	59.95
CONFIDENTIAL 93	59.95
CONFIDENTIAL 94	59.95
CONFIDENTIAL 95	59.95
CONFIDENTIAL 96	59.95
CONFIDENTIAL 97	59.95
CONFIDENTIAL 98	59.95
CONFIDENTIAL 99	59.95
CONFIDENTIAL 100	59.95
CONFIDENTIAL 101	59.95
CONFIDENTIAL 102	59.95
CONFIDENTIAL 103	59.95
CONFIDENTIAL 104	59.95
CONFIDENTIAL 105	59.95
CONFIDENTIAL 106	59.95
CONFIDENTIAL 107	59.95
CONFIDENTIAL 108	59.95
CONFIDENTIAL 109	59.95
CONFIDENTIAL 110	59.95
CONFIDENTIAL 111	59.95
CONFIDENTIAL 112	59.95
CONFIDENTIAL 113	59.95
CONFIDENTIAL 114	59.95
CONFIDENTIAL 115	59.95
CONFIDENTIAL 116	59.95
CONFIDENTIAL 117	59.95
CONFIDENTIAL 118	59.95
CONFIDENTIAL 119	59.95
CONFIDENTIAL 120	59.95
CONFIDENTIAL 121	59.95
CONFIDENTIAL 122	59.95
CONFIDENTIAL 123	59.95
CONFIDENTIAL 124	59.95
CONFIDENTIAL 125	59.95
CONFIDENTIAL 126	59.95
CONFIDENTIAL 127	59.95
CONFIDENTIAL 128	59.95
CONFIDENTIAL 129	59.95
CONFIDENTIAL 130	59.95
CONFIDENTIAL 131	59.95
CONFIDENTIAL 132	59.95
CONFIDENTIAL 133	59.95
CONFIDENTIAL 134	59.95
CONFIDENTIAL 135	59.95
CONFIDENTIAL 136	59.95
CONFIDENTIAL 137	59.95
CONFIDENTIAL 138	59.95
CONFIDENTIAL 139	59.95
CONFIDENTIAL 140	59.95
CONFIDENTIAL 141	59.95
CONFIDENTIAL 142	59.95
CONFIDENTIAL 143	59.95
CONFIDENTIAL 144	59.95
CONFIDENTIAL 145	59.95
CONFIDENTIAL 146	59.95
CONFIDENTIAL 147	59.95
CONFIDENTIAL 148	59.95
CONFIDENTIAL 149	59.95
CONFIDENTIAL 150	59.95
CONFIDENTIAL 151	59.95
CONFIDENTIAL 152	59.95
CONFIDENTIAL 153	59.95
CONFIDENTIAL 154	59.95
CONFIDENTIAL 155	59.95
CONFIDENTIAL 156	59.95
CONFIDENTIAL 157	59.95
CONFIDENTIAL 158	59.95
CONFIDENTIAL 159	59.95
CONFIDENTIAL 160	59.95
CONFIDENTIAL 161	59.95
CONFIDENTIAL 162	59.95
CONFIDENTIAL 163	59.95
CONFIDENTIAL 164	59.95
CONFIDENTIAL 165	59.95
CONFIDENTIAL 166	59.95
CONFIDENTIAL 167	59.95
CONFIDENTIAL 168	59.95
CONFIDENTIAL 169	59.95
CONFIDENTIAL 170	59.95
CONFIDENTIAL 171	59.95
CONFIDENTIAL 172	59.95
CONFIDENTIAL 173	59.95
CONFIDENTIAL 174	59.95
CONFIDENTIAL 175	59.95
CONFIDENTIAL 176	59.95
CONFIDENTIAL 177	59.95
CONFIDENTIAL 178	59.95
CONFIDENTIAL 179	59.95
CONFIDENTIAL 180	59.95
CONFIDENTIAL 181	59.95
CONFIDENTIAL 182	59.95
CONFIDENTIAL 183	59.95
CONFIDENTIAL 184	59.95
CONFIDENTIAL 185	59.95
CONFIDENTIAL 186	59.95
CONFIDENTIAL 187	59.95
CONFIDENTIAL 188	59.95
CONFIDENTIAL 189	59.95
CONFIDENTIAL 190	59.95
CONFIDENTIAL 191	59.95
CONFIDENTIAL 192	59.95
CONFIDENTIAL 193	59.95
CONFIDENTIAL 194	59.95
CONFIDENTIAL 195	59.95
CONFIDENTIAL 196	59.95
CONFIDENTIAL 197	59.95
CONFIDENTIAL 198	59.95
CONFIDENTIAL 199	59.95
CONFIDENTIAL 200	59.95
CONFIDENTIAL 201	59.95
CONFIDENTIAL 202	59.95
CONFIDENTIAL 203	59.95
CONFIDENTIAL 204	59.95
CONFIDENTIAL 205	59.95
CONFIDENTIAL 206	59.95
CONFIDENTIAL 207	59.95
CONFIDENTIAL 208	59.95
CONFIDENTIAL 209	59.95
CONFIDENTIAL 210	59.95
CONFIDENTIAL 211	59.95
CONFIDENTIAL 212	59.95
CONFIDENTIAL 213	59.95
CONFIDENTIAL 214	59.95
CONFIDENTIAL 215	59.95
CONFIDENTIAL 216	59.95
CONFIDENTIAL 217	59.95
CONFIDENTIAL 218	59.95
CONFIDENTIAL 219	59.95
CONFIDENTIAL 220	59.95
CONFIDENTIAL 221	59.95
CONFIDENTIAL 222	59.95
CONFIDENTIAL 223	59.95
CONFIDENTIAL 224	59.95
CONFIDENTIAL 225	59.95
CONFIDENTIAL 226	59.95
CONFIDENTIAL 227	59.95
CONFIDENTIAL 228	59.95
CONFIDENTIAL 229	59.95
CONFIDENTIAL 230	59.95
CONFIDENTIAL 231	59.95
CONFIDENTIAL 232	59.95
CONFIDENTIAL 233	59.95
CONFIDENTIAL 234	59.95
CONFIDENTIAL 235	59.95
CONFIDENTIAL 236	

In the public domain

by Michael Taylor

HERE ARE A few reviews of the some of the more recent offerings of value in latest Fred Fish disks - which are available from most good public domain outlets and suppliers including, but not limited to, Megadisc, White's Computers, Prime Artifax and your local Commodore user group.

MSH: MSDOS floppy device driver FishDisk327

- I use an IBM PC at work and have access to a laser printer. Unfortunately I do not have a 5.25 inch disk drive so I was not able to use the PC Copy utility from the Workbench Extras disk to copy files created on the Amiga to MSDOS formatted disks and thus print them at work.

Then along came PC PATCH (Fish Disk 163) and then PC PATCH 2 (Fish Disk 218) which allowed me to use my 3.5 inch external drive to read, write and format MSDOS disks. First in 360k format and then 720k format. The only problem was that the user interface insisted that you selected files one at a time and you could not use it as a device driver so that you could access files on the MSDOS disk as though they were AmigaDos files.

Then along came CrossDos. This claimed it would do all that I wanted. Unfortunately it is a commercial product and the Public Domain version is a read only "TryWare" version. Before I ordered a copy the public domain equivalent was released.

MSH: is on Fish Disk 327. MSH or MessyFileSystem is a MSDOS Device that enables you to read and write IBM PC MSDOS formatted disks from AmigaDos. It is simple to install if you are familiar with the Amiga's Command Line Interface (CLI) and should still be fairly easy for those inexperienced with the CLI as the documentation is complete.

The documentation states that you should be able to use MSDOS formatted disks as though they were AmigaDos disks. This means that after you mount the MSH: device you can reference files

on a MSDOS disk from your favourite wordprocessing or paint program. I put this to the test by installing MSH:. Before I got a copy of MSH: I read some messages on one of the international usenet Amiga conferences reporting problems with installing MSH:. The sample mountlist does not supply the full pathname in front of the device driver name.

This caused a problem for some people when the mount command could not locate the device driver. I did not have a problem with this. MSH: worked first time and has continued to do so. However if you have problems then make sure that the mountlist has the complete pathname. The AmigaDos copy command copied files back and forth without complaint and all the public domain and commercial programs I have tried have worked flawlessly with it.

All is not completely perfect with MSH:. The MSDOS format program works but requires you to answer a lot of questions before it starts formatting. You can press return and accept the defaults for most of them but the last question is the most interesting. It asks you to enter '42' if you want to format the disk. Beats entering Yes!

Complete source code for Lattice C is supplied with MSH: along with technical documentation. So for an example of a working MSDOS device handler and a useful utility I recommend MSH:.

MR BackUp 3.4 Fish Disk 327

- Also on Fish Disk 327 is the latest version of Mark Rinfret's Backup Program. I started using this program (version 2.4) soon after I set up my hard disk. It is slower than the commercial products but for a suggested donation of \$10- is much cheaper.

It is a great way to demonstrate the Amiga's capabilities. Start up MRBackUp with "run MRBackUp" and begin backing up your hard disk. Next push the MRBackUp window to the back and start playing a game or editing a file. MRBackUp will prompt you to change disks and will even speak if you ask it to.

MRBackUp's user interface is good

and it has a lot of options for backing up your disk (ram:, floppy or hard disk). You can use the archive bits introduced with AmigaDos 1.3 to control which files are backed up and you can resume a backup later on if the first backup is interrupted in some way. I must add that I have not had my Amiga guru while running MRBackUp. MRBackUp comes with a good users' manual (on disk of course) which has answered all the questions I have had.

I have set up MRBackUp to compress files while backing up and set the archive bit. It also writes a log file and a backup listing file to disk. The archive bit is associated with each file and if set indicates that the file has not changed since the last time it was backed up. This is useful for incremental backups but should not be used if doing a complete backup. These options and more can all be saved to a preferences file which is read by MRBackUp when it is started. All the options are customisable in this way. You can also specify the names of files that should not be backed up (or a pattern to be matched such as #?.o or *.o meaning all object files) and the extensions of files that should not be compressed (such as .zoo and .arc).

One of the most important new things that must be learnt when you have a hard disk drive is "backing up". MRBackUp is a good hard disk backup program that will also backup your ram disks and floppy disks. My one complaint is that it is not as fast as the commercial versions. For the price MRBackUp is a bargain! MRBackUp is a "laidback shareware program" - that means that the author would like a donation but welcomes feedback from users even if they are non-contributing.

SID : directory utility

- There have been a lot of directory utilities released into the public domain. DU5 is one example. SID is a shareware program which has a powerful set of commands and a nice intuition interface. It runs automatically in the background and can handle archived/compressed files.

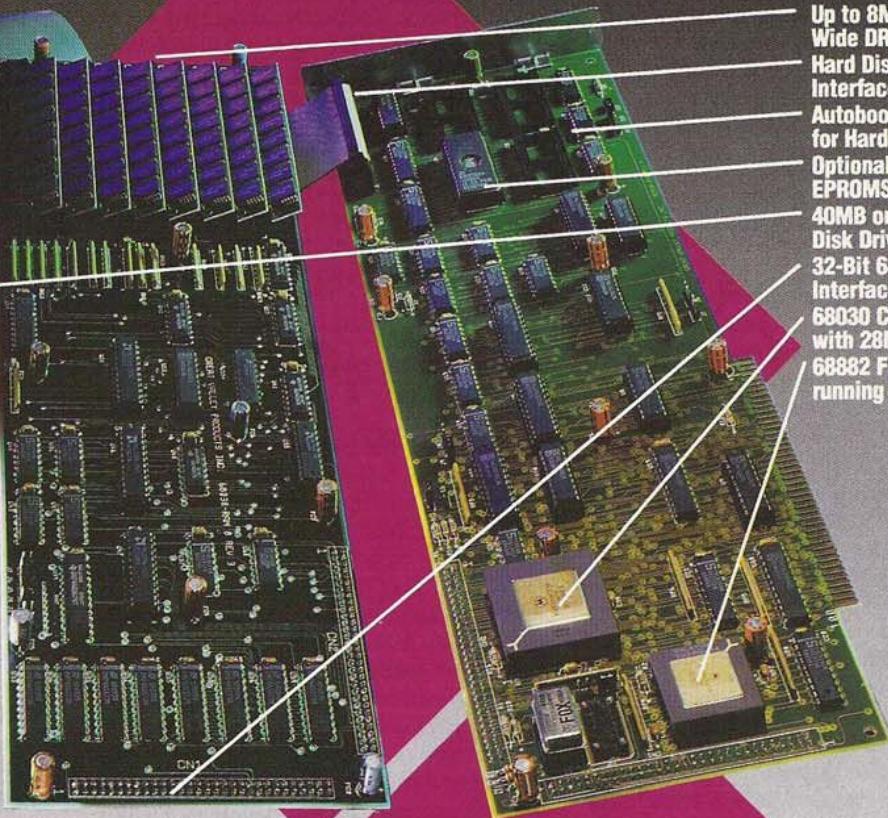
cont. on page 38

Why settle for an A2500 when you can have A3000 performance today?

IMPACT A3001 UPGRADE KIT

The Clear Choice for 68030 Acceleration

**33Mhz
Now Available**



- Up to 8MB of 32-Bit Wide DRAM
- Hard Disk Drive Interface
- Autoboot EPROMS for Hard Disk
- Optional 68030 Boot EPROMS (UNIX™, etc.)
- 40MB or 80MB Hard Disk Drive
- 32-Bit 68030 Bus Interface
- 68030 CPU with 28MHz Oscillator
- 68882 FPU running at 28MHz

Choose the IMPACT™ A3001 Upgrade Kit from GVP to put the speed and power of leading-edge technology into your Amiga™.

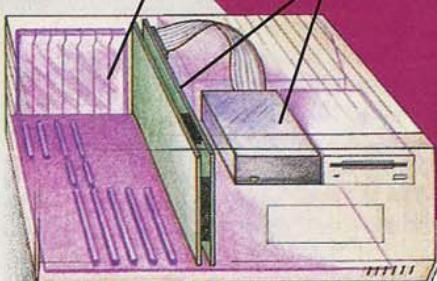
Enhance your productivity and create more powerful results when you choose these key features:

- Factory installed 68030 CPU running at 28 MHz.
- Factory installed 68882 Floating Point Processor running at 28 Mhz.
- 4 or 8MB of 32-bit wide High Performance 80ns NIBBLE MODE DRAM; allows full support and advantage to be taken of the 68030's BURST Mode.
- Built-in Autobooting High Performance Hard Disk Controller with data transfer rates well over 700KB/sec.
- Quantum 40MB or 80MB hard disk drive with an average read access time of 11 ms (19ms on write) and 64KB read-ahead cache. If you already own a hard disk, this item can be optional.
- Asynchronous design allowing the 68030 to run ASYNCHRONOUS to the rest of the A2000 improving GENLOCK compatibility.
- ZERO SLOT SOLUTION! With the A3001 Configuration along with the bundled 40Q or 80Q Hard Disk Drive ALL A2000 EXPANSION SLOTS ARE LEFT FREE FOR FUTURE UNLIMITED EXPANSION!

\$2999

All A2000 Expansion Slots Free!

A3001 Upgrade Kit Installed



When you compare, the choice becomes clear. GVP is unbeatable for price and performance.

COMPARE:	GVP IMPACT A3001	CBM A2630 or A2500/30
28Mhz Standard	✓	NO
33Mhz Available	✓	NO
Upgradable to 8MB 32-Bit Memory	✓	NO
Hard Disk Controller Built-in on Accelerator Board	✓	NO
With Hard Disk Installed All Five Amiga Expansion Slots Left Free	✓	NO
One Year Warranty	✓	NO
User Upgradable Memory	✓	NO

GVP

IMPACT and GVP are trademarks of Great Valley Products, Inc.
Amiga is a registered trademark of Commodore-Amiga, Inc.
UNIX is a registered trademark of AT&T, Inc.



Distributed in Australia by

Power Peripherals Pty. Ltd. Expansion Solutions

P.O. BOX 555, LAVERTON, MELBOURNE, VIC 3028 AUSTRALIA
PHONE: (03) 369 7020 FAX: (03) 369 7020

SID is on Fish Disk 338. It requires installing by copying its configuration file to the s: directory and the SID program file into the c: directory or some other directory in the AmigaDos path. The configuration file contains information that tells SID which programs to use to view picture files, edit files, unarchive files and so on. All the utilities needed are public domain files and I already had them in my collection so it should not be too difficult to track them down if you needed them. Anyway many of SID's functions are internal.

Using SID is very easy. If you are like me and prefer to use a program for a while before you read the documentation you will find its method of doing things intuitive and easy to pick up. It is advised that you read some of the documentation that is provided. Two files that are helpful are "readme.newusers" and "SID.minidocs". These explain the essential operations that you need to know to use SID effectively. In SID's favour most of the items in these files I had already worked out or were obvious.

SID can tell what a file is by reading the AmigaDos "magic number". This is a short sequence of characters at the beginning of the file that indicate what sort of file it is. Therefore SID is able to automatically determine what action to take when you double-click (ie select) a file name. SID called up the IFF (Interchange File Format) Picture Viewer automatically when I selected a picture file and displayed the contents of a text file using its internal file viewer.

It is possible to set SID up so that it would be unnecessary to use the AmigaDos CLI for almost all routine computing tasks. If you are using the Amiga for programming then you will still need to use the CLI or a custom programming environment. However if you are using your Amiga for text editing (word processing), graphics, music or spreadsheets then SID can call up the appropriate program when you select a file. In the "SID.docs" file is a list of file types that SID can recognise automatically. If SID does not know the file type then the file is loaded as either a text file or a binary file. Amongst the file types that SID recognises are WordPerfect files, MaxiPlan Spreadsheet files and PageStream documents.

Of all the directory utilities I have used on the Amiga SID is the most complete and the quickest to learn to use. I only referred to the manual for the configuration information I needed to install it on my hard disk. A list of features in

the "works" is: an interactive configuration editor (you currently have to use a text editor and refer to the configuration documentation) that will explain what each option is as you edit it, a complete second set of user-defined buttons, a directory queue that allows you to store directories for quick retrieval, a completely revamped text reader, a print queue similar to WordPerfect — only better, and a disk copy and format program.

The author of SID has a update program where registered user can receive the next update automatically for about six dollars. Each release has been tested by about ten beta-testers and I certainly have found SID v1.06 to be very stable.

Archive programs: PKZIP PKXARC ZOO LHARC

- When you use a modem to get public domain software from a bulletin board you will find that the files have been compressed using one of the popular archive/compression programs. This is a useful way to save space on the disk and to reduce the time needed to transfer the files over the telephone line. A great plus when making a long distance call!

I have used most of the popular archive programs on the IBM PC and, in the process of transferring files from the PC to the Amiga had problems when the archive program on the Amiga could not uncompress an archived file. Fortunately this is no longer the case.

The popular archive programs on the Amiga now have equivalents on the Amiga. Zoo version 2.01 and pkxarc is available on most bulletin boards and possibly on a Fish disk. Lharc, the newest of the IBM PC archive programs is available on fish disk 312 and, finally pkzip or rather pkazip is available on fish disk 314.

These programs have been able to handle all the archived files that I have tried and are a useful addition to your utilities directory. All work from the CLI with the exception of pkazip which has an intuition interface. The CLI based programs will print a help message if run with no parameters so even if you do not have the documentation they can be used easily. If you have used the IBM PC versions then you will find the operations are the same. Pkazip is very different. It works from the CLI or workbench and opens up a custom screen. The interface looks good but the program has a number of quirks.

For example when unzipping (decompressing) a zip archive file the destination for the unzipped files always has to be selected. I would have preferred it to default to the current directory. I also had trouble when entering the directory name. If you do enter a "/" as the last character the unzipped files are placed in the previous directory not the directory you specified. Once you have got used to the conventions pkzip works and can handle the latest pkzip files from the IBM pc (MSDOS version 1.10 from March 1990). Unfortunately I have heard a rumour that the original programmer was fired by PKWare the owners of PKZip and a new version was being written. This means that as the IBM PC version evolves the Amiga version may lag behind. The reason the original programmer was fired was reported as being due to the lack of shareware payments received!

For anyone receiving public domain software from a bulletin board system then these archive utilities will be very useful. Most BBS's are run on IBM PC's or compatibles.

RCS: Revision Control System

- On UN*X systems is a text file revision maintenance system called SCCS (Source Code Control System). This is used to help co-ordinate software projects and keep track of revision numbers and keep previous revisions available in a space efficient manner. SCCS automates the storing, retrieval, logging, identification, and merging of revisions. SCCS is useful for text that is revised frequently, for example programs, documentation, papers and form letters.

Another version of this system exists in the UN*X world. Called RCS for Revision Control System, it is a public domain implementation of SCCS and the Amiga version is available on Fred Fish Disk 282.

If you cannot see a reason for a utility like RCS then consider the following scenario: You have just modified a program and discovered that the new version did not work. If you have a copy of the old version you can copy that and all is well. However if you did not keep a copy of the original you will have to try and recreate the original working version from the modified non-working version. With RCS or SCCS you can recreate any previous revision of the program. Of course you have to have "checked in" a previous version but this takes up less space on disk than multiple copies of a file as each revision is stored as the differences

from the previous revision. Also the saving of revisions can be made at convenient times such as when the source code compiles cleanly.

RCS also will automatically insert log entries in the source code when ever a change is "checked in". RCS asks for a log entry and, if your source code has the string "\$LOG\$" it will add the log entry. I put the \$LOG\$ string in a comment at the start of the code after an explanation of what the program is. Other useful strings are \$DATE\$ which is the date the revision was "checked in" and \$REVISION\$ which is the revision number.

The user interface is very simple. Only two programs or commands need to be learnt. Ci, "check in" and co, "check out". The check in command stores the contents of a text file into an archive file called an RCS file. Check out retrieves revisions of a text file from a RCS file. There are other commands with RCS and these can be used after the two "basic" ci and co commands have been mastered.

There are many options available with RCS. Any previous revision of a text file can be retrieved, two revisions (for example from separate programmers) of a text file can be merged, two revisions can be compared so the changes can be checked or identified and separate revision trees (that is separate lines of development) of the same source file can be maintained.

As can be seen RCS is very useful for software projects involving a number of people. If a file is revised by more than one person the changes can be merged. If any conflicts in the two versions exist then the user is alerted to the overlapping changes. Previous revisions can be compared to see what the changes were. A history or log of the changes and who made them can be kept for each text file. There is a command, rlog, which will print all the information associated with an RCS file. The log information can therefore be looked at easily and can be maintained in the source text file as well. RCS requests a log entry whenever a revision is "checked in".

For ongoing development, whatever type of text files are involved, RCS is a useful tool for keeping track of revisions. It has a great deal of flexibility in the control of multiple revisions and is an essential tool for multi-person projects. □

AMIGANET

Ethernet network for Amigas.

- * Industry standard Ethernet architecture.
- * Networking software included.
- * True peer-peer Amiga Networking - access any screen, hard or floppy drive, serial or parallel printer attached to any Amiga on the network.
- * A500 version - ABS injection moulded case connects to expansion port of computer.
- * A2000 version enhanced with 64Kbytes data buffer with 16bit data path assisted by a DMA sequencer. (For high traffic centralised facility or a file server.)

AmigaNet A500 \$700.00 (ex tax)

AmigaNet A2000 \$900.00 (ex tax)

GPTerm-Amiga V4

Australia's most popular Amiga telecommunications software.

- * Mouse or keyboard driven, fully multitasking from CLI or workbench, User defined 'configurations' for different services, 110 page manual and more.
- * Full terminal emulations for videotex and ANSI/Amiga, IBM, VT100 ANSI terminal emulations for Viatel & Discovery 40/80, Pegasus and other text based services as well as BBSs
- * File transfer with XModem, YModem, full ZModem, SEAlink, KERMIT, Punter and ASCII protocols. Batch transfers supported.

Packaged with an extensive manual, not copy protected.

GPTerm-Amiga V4 \$99.00

Also available: Amiga and C64 Modem packages, GPTerm-64 (videotex and ascii communications for C64/128, rrp \$59.00). Full range of NetComm and AVTEK Modems.

Available from your local dealer or direct from

GP Software

Specialists in Amiga Communications

21 Aloomba Rd. ASHGROVE QLD 4060

Ph (07) 3661402

512KB RAM EX

AMIGA 500 MEMORY EXPANDER

- **EXPANDS** the Amiga 500 memory to over 1 megabyte allowing the user to play some of the latest games with enhanced sound and graphics.
- **SIMPLE** to install, just plug it in.
- **REALTIME** clock/calendar with **NICAD** battery backup.
- **NEW ENABLE SWITCH** — this switch allows you to turn off the extra ram at your leisure. NOTE: Some games require the extra ram to be turned off otherwise they won't run.
- **COMPATIBLE** — fully compatible with the AMIGA 500.
- **VERY LOW** power consumption.
- **12 MONTHS GUARANTEE.**

This product has been built in Australia by Home Entertainment Suppliers Pty. Ltd., using the latest state of the art technology. Only the best local and overseas components have been used to give you a highly efficient and compact component.



Proudly made and distributed in Australia by:
HOME ENTERTAINMENT SUPPLIERS PTY. LTD.
Unit 1/128 Bonds Road, Riverwood 2210 NSW (02) 533 3277



PANSION CARD

For Commodore Amiga 500

Clock/Calendar and Enable Switch

AVAILABLE AT:

NSW

COMPUTER SPOT

Sydney Ph: (02) 221 1910
Liverpool Ph: (02) 601 7700
Hurstville Ph: (02) 570 7333
Burwood Ph: (02) 744 8809
Parramatta Ph: (02) 891 1170
Penrith Ph: (047) 32 2377
Hornsby Ph: (02) 477 0890
Chatswood Ph: (02) 419 2333
Charles Sturt Ph: (049) 42 1522

GAMES WIZARD

Granville Ph: (02) 682 1268
HARVEY NORMAN DISCOUNTS
All stores - Metro and Country
SHOP 4
Wollongong Ph: (042) 26 2888
STEVE'S COMMUNICATIONS
Fyshwick Ph: (06) 280 6877
THE GAMESMEN
Penshurst Ph: (02) 580 9888

QLD

HARVEY NORMAN DISCOUNTS

All stores - Metro and Country

PICK & PAY HYPERMARKET

Aspley Ph: (07) 263 1588

UNITED COMPUTERS

Ashmore Ph: (075) 97 3260
Bundamba Ph: (07) 222 6239
East Brisbane Ph: (07) 383 0390
Stafford Ph: (07) 356 9599
Underwood Ph: (07) 300 3366

ACTIVE COMPUTERS

Townsville Ph: (077) 72 3793

CITY COMPUTER CENTRE

Rockhampton Ph: (079) 27 3618

PCB ELECTRONICS

Cairns Ph: (070) 54 7305

DELTA ELECTRIC

Ayr Ph: (077) 83 1560

TROPICAL T.V. SERVICE

Townsville Ph: (077) 79 1421

TAS

ANGUS & ROBERTSON

BOOKSHOPS

Hobart Ph: (002) 34 4288

Launceston Ph: (003) 34 0811

QUADRANT COMPUTER CENTRE

Launceston Ph: (003) 34 3436

BIRCHALLS

Launceston Ph: (003) 31 3011

ROBBIES TELETRICIAN

Mowbray Ph: (004) 31 2560

VIC

MAXWELLS

Abbostford Ph: (03) 419 6811

MEI SOFTWARE

Dandenong Ph: (03) 794 9813

Ferntree Gully Ph: (03) 758 9494

MIDI-MOUSE COMPUTERS

Werribee Ph: (03) 749 4138

Altona Ph: (03) 314 4669

Chadstone Ph: (03) 569 0278

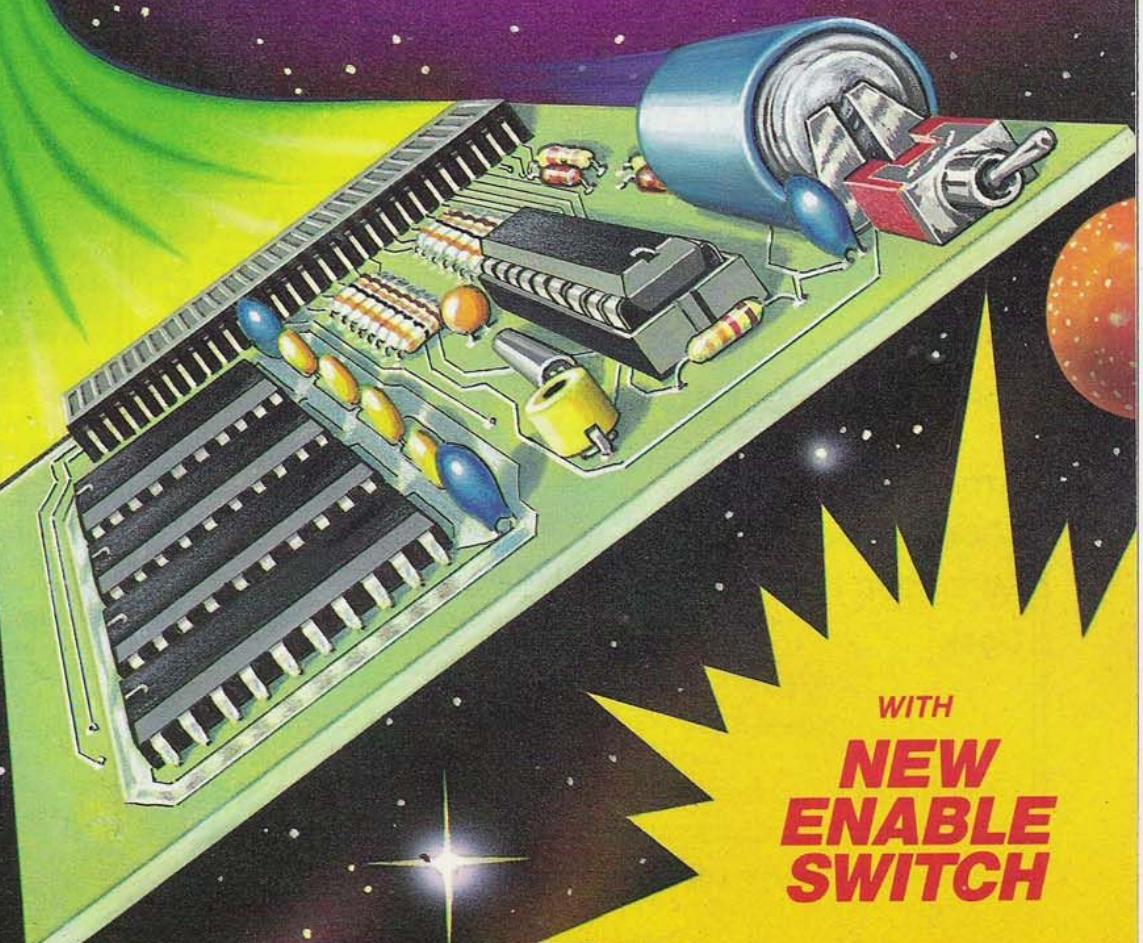
WA

COMPUTER CORNER

Matilda Ph: (09) 459 0650

STANBRIDGE GAMES

Balcatta Ph: (09) 345 1922



Playing the D - Strings

Part II - Introducing Cyclic Strings

by Daniel M. Henderson

Last month we saw how this sort of algorithm costs you 255 bytes for each character you feed it. Inputting a modest 80 characters with this code will cost you more than three kilobytes of memory.

Say you wanted a little more sophistication, like a DELETE function. That's easily added with:

```
3010 IF I$=CHR$(20) THEN IP$=LEFT$(IP$,LEN(IP$)-1):GOTO 3000
```

This expression can cost you up to 254 bytes of memory for each character you DELETE from IP\$. Definitely conceived by the boys at Westpac. There must be a better way.

CINGET

INPUT, for all its faults and eccentricities is a memory efficient function. It achieves this efficiency by queuing all it's

data in a buffer down at Decimal 512.

This is the same buffer that holds any line you enter on the computer screen. Your computer first scrutinises it there before adding it to your program code (if you're in programming mode) or executing any commands (if you're in direct mode) or assigning it to a variable (if you're in INPUT mode).

This space is used repeatedly, so garbage or old data is continually overwritten. No graffiti is left strewn around the landscape. So what we want is to create our own buffer for our own customised Cyclic input function: CINGET.

INPUT's buffer is limited in practice to 79 characters. We can create our own buffer up to the limit of a string's length (255 characters). A good place to stash it would be at Dec 49152, that would take up no user memory.

However that would need unnecessarily complicated routines. Much more straightforward is to make our buffer a dummy variable that we can Cyclically reuse and which can go anywhere in normal memory.

Here are the routines for setting up a buffer of 120 characters:

```
800 REM CINGET CONTROL
805 REM CINGET COPYRIGHT
D.M.HENDERSON JUNE 1990
810 BFL=120:GOSUB850
820 GOSUB 900:CI$=BUFFER$:PRINT:
PRINT"(CTRL2)"CI$:END

850 REM SETUP CINGET BUFFER
860 GOSUB2000:NB=BS-BFL+2
820HB=INT(NB/256):POKE52,HB:
POKE51,NB-256*HB:NB=N8-3
830BUFFER$="X"+"Y":GOSUB1000:POK
ENA,BFL:RETURN
```

So we now have a synthesised string variable in memory (BUFFER\$) which can act as our 120 character long buffer. In line 820 we pass its value over to our own variable (CI\$) and display it. Here is the CINGET routine that does the work:

```
900 REM CINGET ROUTINE
910 PRINT CHR$(30):POKE646,5:PA=0:
GOSUB2000
915X=LEN(BUFFER$):GOSUB1100:
NB=LB+256*HB
920 POKE204,0:WAIT198,1:GETI$:
POKE205,3:wait207,1
930 K=ASC(I$)
940 IF K=13THENPRINT"(SPACE/CR$R
LEFT/CR$R LEFT/SPACE/CR$R
LEFT)":POKENA,PA:POKE51,C1:POKE5
2,C2:RETURN
950 IF K=20THENPA=PA-1:GOTO990
960 IF K<32ORK>93THEN:IFK
<160ORK>221THEN920
970 IF PA=BFLTHEN920
980 PA=PA+1:POKENB+PA,K
990 PRINT"(CTRL 6)"I$;GOTO920
```

CINGET uses as many bytes as you set up for the buffer and then as many bytes as you actually need for each inputted string. Maximum needed here would then be 240 bytes. (Concatenated GET would need 7380 bytes to input and assign 120 characters, 7140 bytes of which would be garbage.)

Line 1910 sets the character and cursor colours and checks the bottom of strings.



FREE DESK PACKAGE:

Amiga 500	\$1795
1084 Stereo Monitor	
MPS 1230 Printer	
Desk	save \$200

AMIGA ACCESSORIES:		
20 Mb hard drive	\$869	
3.5 " ext disk drive	\$179	
512K Ram expansion	\$179	
Philips Stereo Monitor	\$499	
Star printers	\$399	
Colour printers	\$449	

Cnr Burelli & Atchison Sts, Wollongong 2500. Ph. (042) 26 2688

Line 920 has the POKES and WAITS needed to give you a cursor. From then on it's all to do with direct access to BUFFER\$.

In line 960 there are filters that block any non alphanumeric keyboard entry, like CURSOR or CLR keys. Line 950 caters for DELetE.

When you press RETURN line 940 erases any cursor tracks and sets the length of the input string you've created. It also resets the bottom of memory to erase the useless GET string values that have been tacking themselves on there.

Line 915 is just an insurance measure in case a garbage collection might move the location of BUFFER\$. It keeps the most important variable in the routine, NB, updated. You can get by without that by initialising the CINGET buffer before any other strings. Then BUFFER\$ won't move during garbage collections.

There are lots of bells and whistles you can add to an input routine and the exact filters are up to you. Nothing looks more professional than a program that doesn't even allow the keyboard to respond to data entered in the incorrect format.

Cyclic strings troubleshooting

These routines pretty well hit the mark for speed, flexibility and memory miserliness that we set up. However line 915 in CINGET shows how you still need to be careful.

CIGHT\$ and CID\$ are affected by garbage collections when their SUBJECT\$ was a Dynamic string. The SUBJECT\$ doesn't come through it although your created OBJECT\$ are fine. However if you use Cyclic routines wisely you can eliminate garbage collections anyway.

When you're working with array variables don't ever initialise any new non-array variables in the middle of a CYCLIC routine. Make sure all necessary variables are initialised beforehand. Otherwise the array table will move up seven bytes for each new variable initialised - leading to unforeseen consequences.

Finally, do be careful of variable name conflicts between these subroutines and your own programs. Meaningful names like SUBJECT\$ and BUFFER\$ are useful, but of course they would conflict with plain old SU\$ and BU\$.

Applications

I've applied these Cyclic routines to my own most important programs. It's a matter of targeting the string functions that are the most conspicuous consumers of dynamic memory. Looped splicing routines are good examples - often they're worth the trouble of creating their own buffer to churn away in, instead of running riot over precious real estate.

I love having all the free memory back and the System doesn't get polluted with lock-up causing garbage. I only wish BHP or Western Mining could process their materials this way.

In a future article I might look at getting a handle on an even bigger consumer of memory and time: GET#. That would be part of a look at using your disk drive to go for the endless realms of "virtual" memory. □



NEW RELEASES

AMIGA SOFTWARE - LEISURE

BUBBLE BOBBLE	59.95
CHAMPIONS OF KRYNN	69.95
COLONELS BEQUEST	79.95
CONQUEST OF CAMELOT	79.95
DYNASTY WARS	59.95
EAST VS WEST	59.95
Epyx Games Pack I	49.95
Winter Games & California Games	
FEDERATION QUEST : BBS Jane Seymour	59.95
FS II SCENERY STARTER DISK SET	69.95
Includes Disk #7, #11 and Japan	
FRONTLINE	49.95
HARLEY DAVIDSON	69.95
HEROES: Compilation	59.95
Star Wars, Barbarian II, Running Man and Licence To Kill	
HOYLES BOOK OF GAMES 2	54.95
INTERNATIONAL 3-D TENNIS	59.95
KHALAAN	59.95
KICK OFF PLUS	54.95
Kick Off and Extra Time combo pack	
PHOTON STORM	49.95
RED STORM RISING	59.95
ROTOX	59.95
SHADOW WARRIOR	59.95
STORM ACROSS EUROPE	69.95
SUB BATTLE SIMULATOR	29.95
UNREAL	59.95
VENOM WING	39.95
VENUS THE FLYTRAP	49.95
WELLTRIS: TETRIS II	49.95
WINGS OF FURY	59.95

COMMODORE 64/128 SOFTWARE - EDUCATION

BIBLE SEARCH	59.95
--------------	-------

COMMODORE 64/128 SOFTWARE - PRODUCTIVITY

BIG BLUE READER C-128 Only	69.95
CREATE A CALENDAR	34.95
GRAPHICS MAGICIAN	24.95
HOME VIDEO PRODUCER	64.95
LABEL MAKER	49.95
POWER CARTRIDGE	59.95

COMMODORE 64/128 SOFTWARE - LEISURE

BLOODWYCH	29.95
CHAMPIONS OF KRYNN	59.95
DRAGONS OF FLAME	39.95
HEROES : Compilation	49.95
ITALY 1990	39.95
MICROLEAGUE BASEBALL 2	59.95
NIGHT MISSION PINBALL	24.95
SECRET OF THE SILVER BLADES	59.95
SNOW STRIKE: Flight simulator	39.95
STEALTH MISSION	24.95
THUNDER CHOPPER	24.95
UP PERISCOPE	24.95

Available at selected Amiga Software Dealers.

Distributed and Supported by:
ComputerMate Products (Australia) P/L.
P.O. Box C64, Mt. Kuring-Gai, N.S.W. 2080
Telephone: (02) 457 8388 Fax: (02) 457 8739

Technical Support: (02) 457 8548

C64: The Column

by Owen James

It seems new software for the 64 is slowing down, almost grinding to a halt. It's not that the 64 is losing popularity, or that every piece of software that can be written, has been written.

It's more the case that software writers and developers are going after the 16-bit market. This is a shame because everyone loses - 64ers miss out on more software, and the companies are avoiding a large market.

It's now up to us to do something. I'm sure that out of all you die-hard 64 addicts there must be a few that know how to program. Even if you can't you surely have ideas for software you would like to see developed. Write to companies. Tell them your ideas or send them a copy of your original program for evaluation. Software companies will go out of their way if they think a program will be a good seller. You never know - they might like it enough to release it on the commercial market.

Potential writers shouldn't ignore the Public Domain market either. Many famous software writers have leaped to stardom after debuting in the PD scene. If you've written a 64 program that you would like to see released under Public Domain status then write to me with details and I'll let the rest of the 64 world know about it.

Some great new hardware products have been released here and overseas recently. I think they prove that the 64 has not been entirely forgotten.

GEORAM and new drives!

Here's something for GEOS users to get excited about - GEORAM. GEORAM is a 512K expansion card for the C64 and 128. As yet I haven't had a first-hand look at what it can do, but if what the advertisements say are true then it will be a sure winner. Constant disk access and slow screen updates are the only things I don't like about GEOS, but this product promises to get rid of both complaints.

CMD Hard Drives for the 64 and 128 have just been released in the U.S. These look fabulous with capacities of 21.5, 48.6 and 104 Megabytes as well as SCSI compatibility meaning that it can be used on Amiga, IBM and Macintosh computers also (great if you ever want to upgrade). Another plus for GEOS users is that GEOS compatibility is built in. It also has a real time clock for time and date stamping of files. This all seems great on the surface, but wait - all is not happy in 64 land.

The problem is that most 64 software is copy protected leaving the problem of how to get the software on the hard disk to begin with. Perhaps if hard disks on the 64 become popular enough then companies might be willing to make unprotected versions of their software available (maybe even a hard disk install option of the type sometimes found on the Amiga?). Apart from this hiccup the product looks promising. Be warned of the fairly hefty price tag, though - OUCH!

Compact Discs?

Compact Discs are all the go these days with many households owning one. Computer companies have realised this and are putting that fact to good use. It's been out for a while in England and has just been released in the U.S. - the CD interface.

This small device allows the CD player to be plugged into

the user port of the 64. Software is recorded onto the CD just like a normal disk. The advantage here is that a lot more information can be stored on a single CD than a regular computer disk and the transfer rate is significantly increased. My question is will software companies support this new medium?

It would be no good investing in an interface only to find that no software is available for use with it. At present there are a couple of game compilations available for the interface, but I've heard that the games aren't all that crash hot. Don't think that you can dispose of your drive by purchasing the interface. Remember, you can't write to Compact Discs - only read from them, so you'll need some sort of device on which to store your files.

Upgrading

A lot of people ask me about upgrading from their 64 to an Amiga. Sure, the Amiga is a great computer (I should know, because I use both a C64 and an Amiga) but people thinking of upgrading should ask themselves why they want to upgrade. Have you used the 64 to the full potential, or never really moved into the serious side of it?

I did a lot of thinking before upgrading. My reasons were that I needed a machine with more music capabilities. As luck would have it I discovered the perfect 64 music program after my costly upgrade (with my luck I think that I'd be qualified enough to re-write Murphy's Laws!).

Speaking of cost, have you considered the financial feasibility of upgrading? It's not just the cost of the Amiga itself - it's all the add-ons that you discover later.

If you plan to use the Amiga with a television set then an RF Modulator will be needed (another sixty dollars). Within a half-hour of setting up the Amiga I found the need for more memory (\$250 for just another half meg). A second drive is a must (back to spend yet another \$250).

No wonder the staff at Computer Spot smile every time I walk in! Remember those packs of 5 1/4 inch blank disks that you could buy for as little as ten dollars? Amiga 3 1/2 inch disks are normally around \$25 to \$30 a pack. Welcome to the big league when it comes to software prices. Budget software for the 64 can be bought for around the ten dollar mark. The same (often poorer) quality software on the Amiga will probably set you back around \$50.

If you're one of those people who prefer the better quality when it comes to software then make sure you're friendly with your bank manager (and don't have a wife that doesn't understand computers and the costs associated with them)! Prices range from \$100 to \$700 for one piece alone. These are just some of the miscellaneous costs that I've encountered in my time with the Amiga.

Don't think that I'm trying to put you off upgrading. Many would say the Amiga was worth every cent and besides, when you compare the cost of an Amiga to another computer with those sorts of capabilities the Amiga comes out pretty darn cheap. Still, to the average person...

If you think you're going to sell your 64 to cover the cost of the upgrade then think again. I had this in mind but it wasn't long after my 64 was packed up that I longed to use it again. I've had the Amiga for quite a while now, but still use the 64 (and still rate the 64 as high) as I always have. I consider the 64 to be one of the best computers on the market. Give it a chance to prove itself before you upgrade.

cont. on page 48

THE AMIGA 500 PC/XT IS HERE



RUN PROFESSIONAL
MS DOS SOFTWARE
ON YOUR AMIGA 500
AT A PRICE YOU CAN AFFORD

KCS POWER PC BOARD

WHY DID YOU BUY AN AMIGA 500?

Of course, because of its superb graphics, music and animation capabilities. However if you want to get serious, you soon realise that it is distinctly lacking in memory and professional software.

Well - They Said It Could Never Happen - But It's Here At Last!

You! In your own home can transform your Amiga 500 into a real IBM compatible PLUS up to ONE AND A HALF MEGABYTE Amiga memory expansion.

It's simple - No screwdriver, no soldering iron and no technical knowledge required. Just turn your Amiga over, open the cover, slide the Power PC Board into the connector, close the cover and your Amiga PC/XT is ready. (In other words, no loss of guarantee)

You are now ready to use a wealth of professional MS DOS software at speeds faster than a PC/XT (ind. review). **and in colour**, with compatibility thanks to Phoenix-Bios.

You can also rely on the correct date and time at any moment in Amiga and MS DOS mode (with the aid of a battery).

- ★ Video support: monochrome, Hercules and Colour Graphics Adaptor (CGA) (4 and 8 colours)
- ★ Disk support: internal 3.5" external 3.5" external 5 1/4" drive. (Software-upgrade to H/D A590 in pipeline)
- ★ Including MS DOS 4.01, MS DOS shell and GW Basic (market value approx £130.00)
- ★ Including English Microsoft books + KCS manual + FREE software
- ★ Further exciting software upgrades in the pipeline

- ★ Available memory: 704KB + 64KB EMS in MS DOS mode, 1 megabyte + 512KB RAM (disk) buffer in Amiga mode
- ★ No extra power supply necessary thanks to the most modern CMOS and ASIC technology
- ★ OK with TV. No special monitor required

Compatibility is excellent, but no-one can guarantee every single program available therefore if your purchase depends on a particular program, please ask us first or send in a copy of the program. (With suitable S.A.E. if to be returned). Price subject to change without notice.

HPD Pty Ltd
5-7 Railway Terrace, Dry Creek, SA 5094
PO Box 121, Dry Creek, SA 5094
Phone: (08) 349 8486 Fax (08) 349 4667

DEALER ENQUIRIES WELCOME

BRIWALL AUSTRALIA

BUSINESS HOURS
Mon to Friday
9AM to 4.30PM

PO BOX 9
RIVETT ACT 2611

24 HOUR SERVICE
PHONE: (06) 288 0131
FAX : (06) 288 0337

AMIGA

GENERAL BUSINESS

ADVANTAGE (THE)	240	BARNEY BEAR TO FARM	34	QUARTERBACK	84
ANALYSE 2.0	99	CHICKEN LITTLE	35	RAW COPY	79
BECKER TEXT	149	KINDERAMA	65	SUPERBACK	99
CALIGARI CONSUMER	285	LINKWORD FRENCH	43	TRUE BASIC	139
CITY DESK V2	225	LINKWORD GERMAN	43		
DATA RETRIEVE (NOT PRO)	90	LINKWORD ITALIAN	43		
DESKTOP BUDGET	95	LINKWORD SPANISH	43		
EASY LEDGERS	369	MATH TALK	44		
EXCELLENCE	259	MATH TALK FRACTIONS	44		
HAICALC	72	MATH WIZARD	59		
KARA FONTS	65	MAVIS BEACON TYPING	70	ADVENTURES OF SINBAD	59
KIND WORDS	95	READ & RHYME	65	ADVENTURES THRU TIME	59
NAG PLUS V3.1	100	READ A RAMA	65	AESOPS FABLES	59
P H A S A R V4	129	SMOOTH TALKER	55	AFTERBURNER	59
PEN PAL	185	THREE BEARS	35	ALIEN SYNDROME	55
PRO WRITE V3.0	189	WHERE C. SANDIEGO - EA	65	ALL DOGS GO TO HEAVEN	59
TV TEXT PROFESSIONAL	225	WORLD ATLAS	85	ALTERED BEAST	59
WHO WHAT WHEN WHERE	130			ANNALS OF ROME	45
WORD PERFECT LIBRARY	155			AQUA VENTURE	45
WORD PERFECT V4.1	329			AQUANAUT	50

MUSIC

CREATIVITY/GRAFICS

BUMPER STICKER MAKER	72	BARS & PIPES	375	ARCHIPELAGOS	45
BUSINESS CARD MAKER	59	DELUXE MUSIC CONST.	139	ARTURA	45
DELUXE PAINT 111	199	DR T COPY APP	145	AUNT ARTIC ADVENTURE	45
DELUXE PHOTO LAB	205	DR T COPY PROF	359	AUTO DUEL	64
DELUXE PRINT 11	110	DR T MIDI RECORD STUDIO	89	BAAL	40
DELUXE VIDEO 111	169	DR T TIGER	199	BAD DUDES	50
DESIGN 3D	109	DR T TIGER CUB	129	BALANCE OF POWER 1990	59
DIGIMATE 3	49	FUTURE SOUND	229	BALLISTIX	45
DIGIPAIN 3	119	MASTER TRACKS	539	BATMAN THE MOVIE	60
DIGIVIEW GOLD V4	269	MUSIC X	389	BATTLE CHESS	59
DIGIWORKS 3D	169	PERFECT SOUND A500	139	BATTLE HAWKS 1942	59
DIRECTOR	95	PIX_SOUND	110	BATTLE SQUADRON	45
DIRECTOR TOOLKIT	52	SONIX	95	BATTLETECH	59
ECLIPS	129	SONIX SOUNDTRACKS	29		
EXPRESS PAINT III	149				
FAMILY TREE (YOUR)	65				
FANTAVISION	75				
INTRO CAD	99				
INTRO CAD PLUS	195				
MEDIA LINE ANIM					
BACKGROUNDS	20				
MEDIA LINE CLIP ART DISC	20				
MEDIA LINE FONT DISC	20				
MODELLER 3D	115				
MY PAINT	65				
OPTICKS	259				
PHOTON PAINT 11	189				
PIXEL SCRIPT 1.1	189				
PIXIMATE	95				
PRINTMASTER PLUS	55				
PROFESSIONAL DRAW 11	299				
SCULPT 4D JNR	219				
TURBO SILVER	240				
ULTRA CARD	69				
VIDEO SCAPE 3D V2	219				
ZOETROPE	169				

BOOKS/UTILITIES

EDUCATION		HISOFT PROFESSNL BASIC	215	DARK SIDE	49
ANIMAL KINGDOM	59	LATTICE C V5.04 DEV PAC	429	DAY OF THE VIPER	59
BARNEY BEAR TO SCHOOL	34	LATTICE C ++	490	DEATH SWORD	35
		POWER WINDOWS	115	DEFENDER OF THE CROWN	59
		PROJECT D V1.1	69	DESCARTES	49

**Large range of Amiga products growing daily.
If you don't see it listed contact us for help.**

PO BOX 9
RIVETT ACT 2611

Friendly service with technical support. Phone or use our coupon for our free catalogue listing our full range of products.

Check out these genuine everyday low prices

BEYOND DARK CASTLE	45	HOSTAGE	55
BLACKJACK ACADEMY	45	HUNT FOR RED OCTOBER	49
BLITZKREIG ARDENNES 1mg	65	HYBRIS	49
BLITZKREIG ARDNNES 512K	60	INDIANA JONES (ACTION)	60
AMAX	249	IT CAME FROM THE DESERT	59
AMAX & CHIPS	529	IT CAME FROM DESERT II	29
AMI ALIGNMENT	49	JACK NICKLAUS COURSES	29
AMI KIT	58	JACK NICKLAUS GOLF	59
BLOCKOUT	49	JET	59
BLOOD MONEY	49	JETSONS (THE)	49
BLUE ANGELS	59	KYISTAL	65
BRAIN BLASTER	50	LAST INCA (THE)	6
BREACH	49	LEADERBOARD DUAL PACK	49
BREACH 2	59	LEADERB'R'D TOUNR DISK	25
BRIDE ROBOT HINT SHEETS	5	LEADERB'R'D WORLDCLSS	59
BRIDE OF THE ROBOT	39	LEISURE SUIT LARRY	49
BUBBLE BOBBLE	29	LEISURE ST LARRY V2 & V3	59
BUBBLE GHOST	45	LICENCE TO KILL	45
BUDOKAN	49	LORD OF THE RISING SUN	65
CAPONE	45	MANHUNTER	65
CAPTAIN BLOOD	59	MANHUNTER SAN FRAN	65
CLUE MASTER DETECTIVE	49	MEAN 18 FAMOUS CRSES 2	29
DAMOCLES	50	MEAN 18 GOLF	55
DARK CENTURY	50	MEOBUS	64
DEATH SWORD	35	MONOPOLY	49
DEFENDER OF THE CROWN	59	MUTANT PRIESTESS	55
DESCARTES	49	NIGHT HUNTER	50
DESIGNASAURUS	59	NORTH & SOUTH	59
DESTROYER	29	NUCLEAR WAR	59
DISTANT SUNS	78	OBLITERATOR	49
DOUBLE DRAGON II	50	OMEGA	65
DOWN HILL CHALLENGE	59	OUT RUN	59
DR DOOM'S REVENGE	49	PAPERBOY	25
DRAGONS LAIR II Singes Cas	85	PERSIAN GULF INFERNO	49
DUNGEON MASTER	50	PIONEER PLAGUE	49
EARL WEAVER BASEBALL	62	PIRATES	55
EBONSTAR	55		

C64/128**GENERAL BUSINESS**

DATA MANAGER 64	40	BUMPER STICKER MAKER	39
GEOS 128 V2	89	BUSINESS CARD MAKER	39
GEOS 64 V2	80	BUTTON & BADGE MAKER	65
GEOS SUPPORT PRGS FR	45	CADPAK 128	63
PARTNER 64	60	CADPAC 64	90
POCKET FILER 2	65	CERTIFICATE MAKER	35
POCKET PLANNER 2	65	CERTIF MAKER LIBR DISC	30
POCKET SUPERPACK	145	COLOREZ 128	22
POCKET WRITER	65	COMPUTER EYES	190
POCKET WRITER 3 128	89	DODDLE 64	60
POCKET WRITER 3 64	89	FLEXIDRAW 5.5	60
SUPER/BASE, SSCP, BK 128 PK	130	FLEXIFONT 64	45
SUPER/BASE, SSCP, BK 64 PK	110	FONTMASTER 64	65
SUPERBASE 128 V3	90	HOME DES CRCT SYM LIB	19
SUPERBASE 64	59	ICON FACTORY 64	59
SUPERSCRIPT 128	80	MUPPETS PRINT KIT	30
SUPERSCRIPT 64	59	NEWSMAKER 128	43
TECH ANALYSIS SYST 128	85	NEWSROOM	39
TECH ANALYSIS SYSTEM 64	55	NEWSROOM CLIP ART	25
WRITE STUFF 128 w/spellcheck	49	PAPERCLIP 3	85
WRITESTUFF 64 w/spellcheck	40	PATERCLIP PUBLISHER	54
WRITE STUFF 64 w/talk	49	PHOTO FINISH	36
CREATIVITY/GRAFICS		POSTER MAKER 128	40
AWARD MAKER PLUS 64	60	PRINTMASTER PLUS 64	57
		PRINTSHOP 64	65
		SCREEN FX	43
		SKETCHPAD 128	39
		SPECTRUM 128	49

EDUCATION/MUSIC

LINKWORD FRENCH	39
LINKWORD GERMAN	39
STICKYBEAR ABC'S, MATH ETC	35
WHERE C SANDIEGO (EA)	59
DR T KCS 128	325
CHRISTMAS CLASSICS	15
SCOTT JOPLIN RAGTIME	9
BIBLE SEARCH KJV NEW TEST	40
BRIDGE 5	43
FAMILY TREE 64/128/LDS	86

BRIWALL AUSTRALIA

We stock the largest range of
64/128 products in Australia. Ask
for our free catalogue TODAY.

UTILITIES

1541/1571 DRIVE ALIGNMNT	44	SUPER AIDE 64	35
1581 TOOLKIT V2	60	SUPER DISK UTILITIES 128	35
BASIC 8	48	SUPER PASCAL 128	85
BASIC 8 TOOLKIT	29	SUPER PASCAL 64	85
BASIC COMPILER 128	90	SUPER SNAPSHOT V5	93
BASIC COMPILER 64	80	SUPER SNPST V5 + DISABLE	110
COBOL 64	58		
COBOL 128	58	BATMAN THE MOVIE	35
CPM KIT	55	BLUE ANGELS	43
DIGITALKER 128	39	DOUBLE DRAGON II	39
GNOME SPEED COMPIL 128	35	EYE OF HORUS	37
MAVERICK COPIER V5	50	F14 TOMCAT	44
MERLIN 128	100	LORD OF THE RISING SUN	39
MERLIN 64	72	MONOPOLY	39
RAM EXPANDER 1750	429	SEX VIXENS FROM SPACE	30
SUPER 64 LIBRARIAN	25	SIM CITY	39
SUPER 81 UTILITIES 128	35	WHEEL & DEAL	19
SUPER 81 UTILITIES 64	35	WHEEL OF FORTUNE 2	19

ACCESSORIES/BOOKS

64K VIDEO RAM UPGRADE CART, FULL	90
64K VIDEO RAM UPGRADE CHIPS	50
APROSPAN 4 SLOT GART HOLDER	50
COVERS (VARIOUS) FROM	13
FINAL CARTRIDGE III	110
500 C128 QUESTIONS & ANSWERS	40
54 HOW GET MOST BK & DISC	35
C128 INTERNALS BOOK	45
C128 TIPS AND TRICKS	45
C128 TROUBLESHOOT & REPAIR	45
DISKS FOR BOOKS	25
KRACKER JAX REVEALED 1, 2 & 3	35
SUPERBASE THE BOOK	40

ORDERS: Please make cheques payable to "Briwall Australia" and mail order to PO BOX 9, RIVETT, ACT 2611.

All in stock items shipped same day. Please allow 14 working days for delivery of out of stock items.

Should your product be faulty please return disk only and copy of receipt for immediate free replacement.

COD also available. Prices are subject to change without notice.

NAME.....	.....	PH (.....)	.....	BK/CARD/MASTERCARD/VISA NO:	EXPIRY DATE
ADDRESS.....	.....	.....	.....	Cheques payable to Briwall Australia	.....
CITY	STATE	POSTCODE	COUNTRY	SIGNATURE.....	.....
DESCRIPTION	QUANTITY	EACH	TOTAL	COMPUTER TYPE: .....	.....
.....	.....	.....	.....	SUB-TOTAL	\$.....
.....	.....	.....	.....	POSTAGE.....	.....
For complete list of products & prices, please tick AMIGA () C64/128 ( )	.....	.....	.....	GRAND TOTAL....	.....

FREE SOFTWARE

The best of every imaginable type of public domain and shareware programs from GAMES to ASTRONOMICAL packed on each and every disk for the C64/128 and AMIGA users at just \$5 per disk selection!

Your \$50 membership fee gets you all this!

- **10 FREE disk selections** of your choice!
- **FREE access** to the Island Bulletin Board System on (03) 742 39931 (visitors welcome)
- **DISCOUNTS** on an extensive range of Commercial Software & Hardware for your Commodore!
- **FREE postage and MORE!**

Full money back guarantee if not satisfied, 100s of more than happy members can't be wrong!

[] Please rush me my membership to ISLAND SOFTWARE CLUB.
 [] Rush me my FREE information kit on ISLAND SWARE CLUB

Computer type: _____

Payment [] Chq./M.O. [] Credit card

Card type: _____

Card Number: _____

Expiry Date: ____ / ____ / ____

Name: _____

Address: _____

P/Code _____

Post to: FREEPOST 49 (use no stamp)

ISLAND SOFTWARE CLUB, P.O. BOX 381,
 WERRIBEE VIC 3030 Or call: (03) 741 9981

BREAKING THE PRICE BARRIER

*AMIGA 1 MEG memory boards
 dramatically reduced*

\$ 2 9 9

Two boards in One!

FREE Bonus offer, XEL hardDrive interface included, save \$200 off the price of a complete hardDrive.

Fully populated

with 1MB of AUTO-CONFIGURED FAST RAM for your 500 or 1000 computer.

Hard Drive Options

* 30 Meg	\$899
* 40 Meg	\$1099
* 60 Meg	\$1299
* 105 Meg	\$1799
* Hard drive Kits	\$195

XEL Pty Ltd

G.P.O. BOX 121 Adelaide. 5001
 Phone 08-2317396 or 018-824648 anytime.

THE POWER BREAKS THROUGH...



AMIGA ACTION REPLAY

THE WORLD'S MOST POWERFUL FREEZER-UTILITY CARTRIDGE

- AMIGA ACTION REPLAY SIMPLY PLUGS INTO THE EXPANSION PORT OF YOUR AMIGA 500 AND GIVES YOU THE POWER TO FREEZE MOST ANY PROGRAM, THEN YOU CAN:-**
- SAVE THE ENTIRE PROGRAM IN MEMORY TO DISK**
Special compacting techniques enable up to 3 programs to fit on one disk. Unique FDOS power means that the programs reload at up to 4 TIMES FASTER than AmigaDOS - even independently of the cartridge.
- UNIQUE INFINITE LIFE TRAINER MODE**
Allows you to generate more and even infinite lives, fuel, ammo etc. Perfect as a trainer mode to get you past that "impossible" level. Very easy to use.
- SPRITE EDITOR**
The full sprite editor allows you to view/modify the whole sprite set including any "attached" sprites.
- VIRUS DETECTION**
Comprehensive virus detection and removal features to protect your software investment. Works with all presently known viruses
- SAVE PICTURES AND MUSIC TO DISK**
Pictures and sound samples can be saved to disk. Files are IFF format suitable for use with all the major graphic and music packages.
- SLOW MOTION MODE**
Now you can slow down the action to your own pace. Easily adjustable from full speed to 20% speed. Ideal to help you through the tricky parts.
- RESTART THE PROGRAM**
Simply press a key and the program will continue where you left off.
- FULL STATUS REPORTING**
At the press of a key now you can view the machine status, including Fast Ram, Chip Ram, Ramdisk, Drive status etc.

PLUS THE MOST POWERFUL MACHINE CODE FREEZER/MONITOR

MORE FEATURES THAN YOU COULD EVER NEED. HERE ARE JUST SOME:

- Full M68000 Assembler/Disassembler
- Full screen editor
- Load/Save block
- Write string to Memory
- Jump to specific address
- Show Ram as text
- Show Frozen picture
- Play resident sample
- Show and edit all CPU registers and flags
- Calculator
- Help command
- Full search feature
- Unique Custom Chip Editor allows you to see and modify all chip registers - even write only registers
- Notepad
- Disk handling - show actual track.
- Disk Sync pattern etc.
- Dynamic breakpoint handling
- Show memory as HEX, ASCII, Assembler, Decimal Copper Assemble/Disassemble.

REMEMBER AT ALL TIMES YOU ARE INTERROGATING THE PROGRAM IN ITS "FROZEN" STATE WITH ALL MEMORY AND REGISTERS INTACT - INVALUABLE FOR THE DE-BUGGER OR JUST THE INQUISITIVE!

Hardware Peripheral Distributors, 5-7 Railway Terrace, Dry Creek, SA 5094
PO Box 121 Dry Creek, SA 5094. Phone (08) 349 8486. Fax (08) 349 4667.

DEALER ENQUIRIES
WELCOME

Tips and Tricks

Following on from last month's theme of disk drives comes some help for corrupted disks. If you have a disk that has read errors etc then begin by making a duplicate copy of the disk. This is VERY important because you may find more damage is done in your effort to restore it. First of all, attempt to validate the disk. This is done by typing:

OPEN 15,8,15: PRINT#15 "V0": CLOSE 15

After doing this check the disk again for errors. You may find the type of error has changed or possibly that the error has vanished all together. If you have any kind of disk utilities that may try to restore the BAM (Block Availability Map) then give that a whirl. Have a look at the test/utility disk that was supplied with your drive for such programs. One that might restore the BAM is the UN-SCRATCH program. Another source of good disk utilities is the Suite 64 Disk Magazine number 11. It contains many programs to help with disk problems.

If the disk error persists then it may need some more serious adjustments. Often a track and sector editor will be of some use. With these you may be able to read the faulty sector and then re-write it back to disk without errors. There is a more drastic measure that could almost guarantee a fix as long as the error doesn't occur on track \$12 (the disk directory).

Format a blank disk. Using a sector editor, copy all the sectors that are related to the disk directory to the blank disk. The directory is normally spread throughout track \$12. If unsure of the exact sectors then copy this entire track. Please note that the track and sector numbers I'm giving you are in hex because that's what most sector editors that I use work with. If yours doesn't then just convert the values to decimal.

We are now going to make use of a trick that most 64 users

seem not to know about: quick disk blanking. To blank a disk, simply type in the normal format command but leave out an I.D. code so that the command becomes OPEN 15,8,15,"N0:DISK NAME": CLOSE 15. Do this now to the corrupted disk. The process takes only about two or three seconds.

What it does is just clear the directory track and re-write the BAM so that it believes the disk is blank. Don't worry: your files are still safely tucked away on disk even though they don't show up in the directory. Now re-copy the directory tracks from the blank disk back to the original. Check the disk directory to make sure this process worked O.K. If it did then you should find the disk is now error free.

If you turn on your computer one day only to find the 64 is talking rubbish to you (you know, random characters plastered all over the screen) then don't fear: your 64 hasn't been possessed by some Italian virus! Check your joystick auto fire switch. I'll bet that it's either been left on or is faulty. Unplug the stick and you should find that the problem's solved.

Nearly all computers have a New Line button. I'm not talking about the RETURN key; this one will ignore whatever is on the current line and is much easier than pressing the cursor down key and then the cursor left key a few times. Just press and hold SHIFT as you hit RETURN.

Well, that just about wraps it up for this month. Watch out next month for how to customise commercial software to suit your own needs. Remember that as always I want to hear YOUR tips, tricks, comments, suggestions or anything else that is 64 related. Write to me care of the AC&AR at P.O Box 288 Gladesville, 2111.

FREE
postage
anywhere in
Australia

LOGICO

s · o · f · t · w · a · r · e

Marrickville Metro
Shopping Centre
Shop 3A / 36 Victoria Rd.
Marrickville NSW 2204
Telephone: (02) 519 5323

AMIGA

ARCADE

Altered Beast
American Dreams
Beverly Hills Cop
Blood Money
Bubble +
Cabal
Carrier Command
Cyberball
Dragons Lair II
Eagle Rider
Full Metal Planete
Grand National
Gretzky Hockey
Ghouls and Ghosts
Hard Drivin'
Hot Rod
Jumping Jackson
Moonwalker
Operation Thunderbolt
P47
Pro Tennis
Shadow Of The Beast
Sim City
Space Ace
Storm Lord
Tower Of Babel
Turbo Cop
Rick Dangerous
Xenon II

ADVENTURE

Black Tiger
Creature
Drakken
Dragons Breath
Elvira
G.nius
It Came From The Desert

STRATEGY
Battlehawks 1942
Battle Tech
Battle Squadron
Bloodwych
Dragon Force
F-29 Retaliator
Millenium 2.2
Midwinter
Player Manager
Police Quest
The Hunt For Red October

Warhead

55.00

BUSINESS

Can Do
Day By Day
Digal
Excellence
Home Accounts
Pagestream Fonts
Pen Pal
Phasar V4.0
Pro Page V1.3
Promise
Pro Text Amiga
Publishers Choice
Superbase Personal II
Superbase Professional V2.03
Superbase Professional V3.00
Works Platinum

EDUCATION

Animal Kingdom
Associated
Decimal Dungeon
Fraction Action
Math Blaster Plus
Math Wizard
Mavis Beacon Teaches Typing
Memorise
Recognise Me
Shapes And Colors
Spellbound
Word Master

GRAPHICS

Animate 3D
Bgraphics
Comic Setter
Deluxe Paint III
Deluxe Print II
Deluxe Video III
Design 3D
Digi Paint V3.0
Express Paint 3.0
Fusion Paint
Photon Paint II
Printmaster Plus
Rotoscope

MUSIC

Dr. T's Copyist Pro.
Instant Music
Midi Magic
Music X

TOP COMPILATION PACKS!

Amiga Champions

Operation Wolf
Double Dragon
Afterburner

\$55

Winners (Amiga)

Thunderblade
Pacland
L.E.D. Storm
Tiger Road
Impossible Mission

\$55

Arcade Champions C64

Operation Wolf
Dragon Ninja
WEC Le Mans
After Burner

\$28

Mega Blasters C64

Double Dragon
Robocop
R - Type
Rambo III

\$28

COMMODORE 64/128

ARCADE

Action Fighter
Altered Beast
Ballistix
Beverly Hills Cop
Cabal
Chase Hq
Cyberball
Dragon Spirit
Ferrari Formula One
Hard Drivin'
Hot Rod
Iron Lord
Night Dawn
Ninja Warriors
P47
Pipe Mania
Phobia
Pro Tennis
Robo Cop
Scramble Spirits
Shinobi
Sim City
Stunt Car Racer
Turbo Outrun
Wild Streets
World Tour Golf

EDUCATION

Animal Kingdom
Associated
Decimal Dungeon
Fraction Action
Math Blaster Plus
Math Wizard
Mavis Beacon Teaches Typing
Memorise
Recognise Me
Shapes And Colors
Spellbound
Word Master

GRAPHICS

Animate 3D
Bgraphics
Comic Setter
Deluxe Paint III
Deluxe Print II
Deluxe Video III
Design 3D
Digi Paint V3.0
Express Paint 3.0
Fusion Paint
Photon Paint II
Printmaster Plus
Rotoscope

MUSIC

Dr. T's Copyist Pro.
Instant Music
Midi Magic
Music X

ADVENTURE

Black Tiger
Castle Master Dual
Operation Neptune
Presumed Guilty
Project Stealth
Star Lord
Tin Tin On The Moon

STRATEGY

Airborne Ranger
Carrier Command
Dragon Wars
F-15 Strike Eagle
Gunship
Monopoly
Pirates
Red Storm Rising
Silent Service
Snow Strike
Teenage Queen
Hunt For Red October

UTILITIES

Awardware
Masterpiece
Print Power
Printshop Graphic Library 1
Printshop Graphic Library 2
Printshop Graphic Library 3
Stop Press

GRAPHICS

Awardware
Masterpiece
Print Power
Printshop Graphic Library 1
Printshop Graphic Library 2
Printshop Graphic Library 3
Stop Press

EDUCATION

Alien Addition
Animal Kingdom
Decimal Dungeon
Demolition Division
Fraction Action
Math Blaster
Minus Mission
Number Farm
Speed Reader II
Spell It
Spelling Wiz
Ven Viper
Word Attack
Word Invasion

NEW COMPILATION PACK

TOP TWENTY SOLID GOLD

- ➡ Arcade
- ➡ Adventure
- ➡ Fantasy
- ➡ Simulation
- ➡ Sports
- ➡ Strategy
- ➡ Education



"Where Prices Are Born, Not Raised"

MAIL ORDER FORM Send To: LOGICO SHOP 3a Marrickville Shopping Centre 36 Victoria Rd. Marrickville NSW 2204

PROGRAM NAME	COMPUTER	CASSETTE/DISK	QUANTITY	PRICE

Method of payment: tick for Cheque Postal Order
Tick for Bankcard Mastercard Visa Amex

Credit Card No _____

Valid from _____ Until end _____

Name as per card _____

Signature _____

Delivery to:

Name _____

Address _____

P/code _____

Telephone () _____

Date Sent _____

TOTAL \$ _____

POSTAL CHARGE FREE

GRAND TOTAL \$ _____



Phone Orders
02-519-5323

JUST BECAUSE YOU DON'T SEE IT - DOESN'T MEAN WE DON'T HAVE IT !!

Coming to grips with the Amiga's CLI - a tutorial for beginners Part 4

by Andrew Leniart

WELCOME TO THE fourth instalment of our on-going series where we delve into the Amiga's Command Line Interface. Last time we looked at formatting disks, deleting files and learned how to use the Diskdoctor. We also spoke a bit about how we can use wildcards to make life easier for ourselves.

We'll learn a few more commands this issue, as well as expand a bit on a couple of things I talked about earlier. First off, here's a couple of general tricks and tips relevant to some of the commands which we have already learnt.

Tricks with formatting

- To format a disk takes a fair bit of time so some disk manufacturers try to cash in on this by selling pre-formatted diskettes for various brands of computer. Now there is no way that they would sit down and format disks one by one before placing them in the box. Naturally, they have some sort of set up that formats dozens of disks at a time. We too can do something similar for ourselves with the Amiga if we have more than one drive.

The Amiga is a multitasking computer, so it is not an unreasonable expectation to think that if we have two or three drives, then we should be able to format two or three disks at the same time. Well, it is possible, and here is one way of doing it, assuming two drives.

First off, using the CLI copy the format command from the "c" directory of your Workbench disk to Ram: Now open another CLI so that you have two of them (CLI's) on your Workbench. CD to ram: in both of them.

Having done that, simply type in "Format Drive DF0: name" in one CLI and "Format Drive DF1: name" in the other and press Return. Follow the instructions given and the end result is the Amiga formatting both disks at the same time.

This trick is particularly handy if you have bought a couple of boxes of blank disks and want to format them ready for later use. Further, if you use a SHELL rather than a CLI, all you need do to get the next two going is press the arrow

keys on your keyboard to get the commands up again without the need to re-type them. For those lucky enough to have more than two drives, simply open the equivalent amount of CLI's and go through the same steps.

Some of you might have picked up on the fact that it was unnecessary to have all those CLIs open in order to achieve the above result. If you did, well done! You're absolutely right. We could have achieved the same result by using the Run command.

Multitasking with Run

- If we had to open up a NewCLI each time we wanted to do more than one thing at a time with the Amiga, we would soon run out of work space. Besides that, each time you open up a new window on workbench, you're wasting memory. Not a very good practice if you're still stuck with a 512k machine.

Run allows us to execute many tasks at the same time without the need of a window for each task. There are some restrictions, the main one being that if you run something that requires some sort of screen output, not everything will always turn out rosy. For example, it is a waste of time to Run the TYPE command. Try it.

Run Type DF0:s/Startup-sequence

See what I mean? The screen very quickly begins to fill with the contents of your disk's startup-sequence, which prevents you from entering any further commands anyway. So the thing to remember is not to RUN anything that requires a window to generate screen output.

But there are plenty of commands that can take advantage of the RUN command and these include commands such as FORMAT, DISKCOPY, COPY, ED and so on. You will soon get the hang of knowing which commands you can or can't RUN as you get more experienced using the CLI.

Back to our Formatting example earlier - we could have achieved the same result by doing this in ONE CLI:

Run Format Drive DF1: <Name>

RETURN

Run Format Drive DF0: Name <Name>
RETURN

and so on! There are other advantages to using RUN as well. Say you wanted to start a program from the CLI such as the Clock on your Workbench. Being an executable file, Clock may be started simply by typing its name in the CLI, ie 1>Clock followed by hitting the Return key.

Doing that however results in a dead CLI. What's a dead CLI? Try the above example and you'll see for yourself. As soon as you start Clock, you can't do anything else with that CLI unless you stop Clock with its quit gadget. If we do this: 1>RUN CLOCK then we get a little message like [CLI 2] and our 1> prompt back to issue further commands. Get the drift...? Play around with the run command and see what you can come up with.

Having discussed the RUN command, it's appropriate now that we should have a squiz at BREAK. Here is its command template:-

Break PROCESS/A,ALL/S,C/S,D/S,E/S,F/S

So what does it do? In simple terms, BREAK stops the execution of any DOS command from any CLI window. For example, if we had two CLIs open and we did a <DIR opt a> in the first window, then we could stop this command from executing further by issuing the command from the second CLI.

This is handy if you happen to change your mind after starting a command which might take a considerable amount of time to finish otherwise, or if you're printing a document from the CLI and decide that you want to stop the printout halfway through. This is a much more elegant method of stopping a printer than say yanking the printer's plug out of the power socket!

The four different switches in the command C, D, E, F are the equivalent of pressing <Ctrl> <c>, <Ctrl> <d>, <Ctrl> <e>, <Ctrl> <f> on your keyboard.

Break defaults to <Ctrl> <c> when issued on its own as above, however you

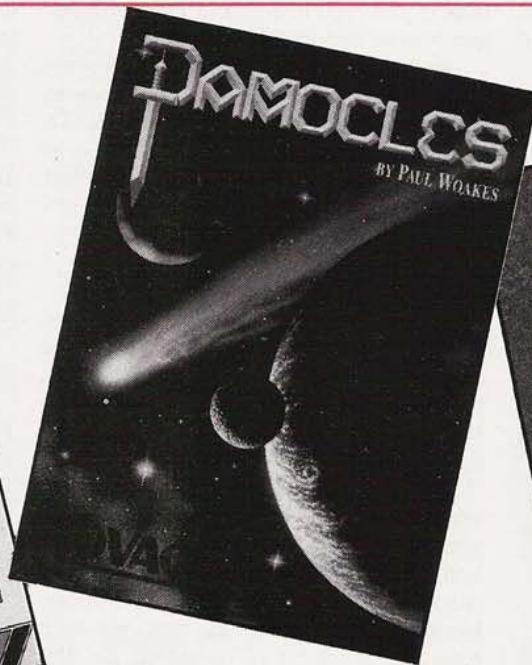
POWERPLAY

FROM
Pactronics



SKWEEK

The good old arcade game is back! SKWEEK is simplicity itself to learn, but like all classics, can take a lifetime to master. 99 levels will have you exasperated for months, marauding monsters will leave you tearing your hair out, and the addictive gameplay will have you coming back for just one more go!!



DAMOCLES

More than 2 years in the making, DAMOCLES takes up where MERCENARY left off. Whilst enjoying the fruits of your success, you receive another job offer. Being a man of leisure, you take your time getting there only to find out you now have only 4 hours of real time to stop a comet called DAMOCLES from colliding with the planet you're now standing on! The residents have all scarpered; it's you, Benson (your on-board computer) and DAMOCLES. Please write (quickly) and let us know how you're getting on.

Other great titles include

SUPERMAN, VORTEX, MORTVILLE MANOR, G'NIUS, CRAZY SHOTS, FIFTH GEAR, WORLD CUP SOCCER, ASTEROTh, etc.

If you are not already an up-date member of ours, please ring (02) 748 4700 or if you are outside the Sydney area 008 227 465 for a full list of products.

Pactronics
"The user friendly company"

Available From:

Computer Spot (All Branches) Grace Bros., Myer, Harvey Norman, Harris Scarfe (S.A.), Maxwell's Office Equipment (VIC), Midi Mouse Computers, United Computers (QLD) and all good computer retailers.

For your nearest retailer please contact:

N.S.W.: Pactronics Pty Ltd, 98 Carnarvon Street, Silverwater (02) 748 4700
VICTORIA: Pactronics Pty Ltd, 51-55 Johnston Street, Fitzroy (03) 419 4644
QUEENSLAND: Pactronics Pty Ltd, 12 Stratton St, Newstead 4006 (07) 854 1982
SOUTH AUSTRALIA: Contact N.S.W. or Victoria Office
WESTERN AUSTRALIA: Pactronics Unit 13, 113 High Rd, Willetton 6155 (09) 354 1122
TASMANIA: ESP Marketing, 52 Elphinstone Rd, Mt Stuart 7000 (002) 78 1806

can select which control code you want sent by specifying the switch when you give the command, i.e. <Break 1d> would have sent a <Ctrl> <D> to task number 1.

All that's good and well, but so far as I'm concerned, I reckon it's far easier to just issue the command with the ALL switch rather than try to guess which code is needed to stop any particular process. Therefore, if <Break 1 all> does not stop what you want to stop, then you know it's not because you used the wrong switch. (If all else fails, there is always the plug in the wall to pull!)

Setting paths

- Moving right along, if you think back to the first instalment in this series, you might remember I showed you how to create a "c" directory in ram: copy some commands into it and assign ram:c as the logical device for the Amiga to look for DOS commands.

What I didn't explain then is that there is another way to get the Amiga to look in ram: or any other disk for that matter to find DOS commands or programs. The PATH command allows us to specify 'paths' which the Amiga will follow to find any given device. The command template is as follows:

PathADD/S,SHOW/S,RESET/S

Typing PATH on its own without parameters (or switches) results in the command showing the current directory and defaulting to the SHOW switch. As an example, here is something like what we might see if we just booted up with an unmodified Workbench 1.2 and typed PATH.

Current Directory A500 WB 1.2:System
A500 WB 1.2:Utilities RAM: C:

So what does it all mean? Well, the list shows the order that DOS will search for a file or command when you issue one. First off, it searches the current directory. Don't forget we can specify the Current Directory with the CD command. If it can't find what it's looking for there, it will then look in the next entry down the list being the System directory and so on until whatever it was you entered was found. If DOS can't find what it's looking for, you will eventually get an "Unknown Command" error message.

Being able to specify paths is a handy little option if you happen to use something on your disk quite often and it's

kept in a directory separate from the Root directory. Let's say for argument's sake that we often use a directory utility called SID which we keep in a directory we've called "DirUtes".

Normally, to be able to start SID from the CLI, we would have to issue the command DirUtes/SID. In this way we are specifying the 'path' DOS should follow to find SID. However, if you enter the command <Path sys: Dir UtesbAdd> beforehand, then all you would need do then is just type in SID and DOS will automatically look in DirUtes for it.

As I was saying earlier, the Path command is especially useful if you want to place commands in the RAM: disk. To make life easier, instead of assigning c: to ram:c as I told you in the example in Part 1, just issue the following command

PATH RAM:C ADD

Now DOS will look in ram: each time you issue a command before it spits the dummy and tells you it can't find what you want or that it needs the blasted Workbench disk when working with one drive. Neat, eh?

Finally, this command is most useful when used in the startup-sequence of your work disk. For those that may not know, the Startup-Sequence is a script (or batch) file in the "S" directory of a bootable disk that the Amiga executes each time the machine is re-booted or first started at the hand prompt on your screen.

You can manipulate this file to create the ultimate work environment for yourself, and I've written an article on how to do just that. Write to the Editor of AC&AR to ask which issue it was in if you are interested. Pester him for it if it has not been published yet so that you can learn and I can get my cheque! (Er, sorry, boss...)

Getting back to the original subject, the final option available to us with the Path command is the RESET switch. The RESET argument does what the name suggests and removes a maximum of 10 paths which might have been set at any given time. All paths except the current directory and the c: device are removed (or deleted).

Amiga DOS errors

- When you work frequently in the CLI, it is inevitable that you will from time to time get the occasional error message. I say inevitable because error messages occur when something as simple as a spelling error is made. I'll explain what

these error messages mean shortly but firstly, here's an example of what I'm talking about:-

Enter the following in a CLI exactly as shown here.

Type s/startup-sequence

and hit return. The Amiga responds with the following message->

"Can't open s/startup-sequence"

We can ask the Amiga why it can't do what we asked by typing the command "WHY"

The Amiga answers that the

"Last command failed because Error code 205".

To find out what Error code 205 is, we now must use another command, namely FAULT. So we enter

"FAULT 205"

and the Amiga responds with

"Fault 205: Object not found".

In case you haven't noticed, I should point out that the reason the Amiga could not find the startup-sequence is because it was deliberately misspelled. Have another look...

Now the mentality behind the thinking of setting up the above procedure never ceases and continues to amaze me to say the least! Why in the world the Amiga's programmers needed to go all this trouble to make finding out an Error meaning is beyond me.

Surely it would have been much simpler to just display the Fault string at the WHY step in the procedure rather than display an Error code to have to look up. Perhaps someone out there knows the answer to this and would be willing to educate me?

Anyway, we now know that the two commands WHY and FAULT are available to us to find out why something might go wrong. WHY gives us an Error code to look up and FAULT converts the Error Code to some descriptive text.

I should point out that not all Error codes have descriptive text available for them when queried with the Fault command. If this is the case, what you will get will be something like the following:

"FAULT 10: ERROR 10"

Not very helpful I know, but to coin a phrase from the wellknown TV journo that many people just love to hate, that's life!

In light of the above fact, I thought it

might be appropriate to list some of the more common Error codes and their meaning for easy reference, so I've listed the more common ones below:

103 INSUFFICIENT FREE STORE : This basically means that you do not have enough memory (RAM) in your Amiga for it to be able to perform the task you asked of it. Either spend some bucks on a suitable memory expansion to solve this problem or else close up all unnecessary windows etc to try to free up as much ram as you can.

104 TASK TABLE FULL : You are trying to run more tasks at the same time than is possible on the Amiga. The limit is 20.

120 ARGUMENT LINE INVALID OR TOO LONG : This usually means you made a mistake when using a commands arguments or switches.

121 FILE IS NOT AN OBJECT MODULE : This error usually occurs if you try to run or execute a file which is not executable (ie. a text file). If you get this type of error, try 'type'ing the file in question.

202 OBJECT IN USE : The file (or sometimes the directory) you tried to access is being used already in such a way that you can not use it until that process is finished. In other words, wait your turn, buster!

203 OBJECT ALREADY EXISTS : This error pops up when you try to rename a file, command or create a directory with a name which already exists. Choose a different name for your file or directory; even a slight alteration like a full stop on the end of the name is enough to keep DOS happy.

204 DIRECTORY NOT FOUND : Self explanatory really. DOS could not find the directory you asked for. If you are sure the directory exists, make sure you specified the correct path to DOS when asking for it!

205 OBJECT NOT FOUND : Same as 204 except that this one refers to a device or file name rather than a directory.

206 INVALID WINDOW : This one occurs if you specify unsuitable information when trying to create a CLI of a certain size and name using the CON: device option of NEWCLI.

210 INVALID STREAM COMPONENT NAME : You have probably made a mistake when specifying a filename, either an invalid character in the name or entered a name that was more than 30 characters long. DOS will only allow you to use a maximum of 30 characters for file names.

212 OBJECT NOT OF REQUIRED TYPE : The file you indicated could not be used by the command or program you tried to use on it. Like trying to RUN a text file for example.

213 DISK NOT VALIDATED : This is a nasty one which can occur if DOS is not

able to validate the disk you tried to access. Take the disk out and re-insert it to try again and if that fails, get the DiskDoctor on the job. (See Part 3 of this tutorial to find out all about using the DiskDoctor!)

214 DISK WRITE-PROTECTED : You're trying to write to a disk with the protection hole in the upper right corner open, dum-dum! Close the hole and the Amiga will then be able to write to the disk.

215 RENAME ACROSS DEVICES ATTEMPTED : You've tried to be clever and use the RENAME command to move a file over to another disk or device. This is a no-no and the Amiga won't have a bar of it! Use COPY and DELETE to achieve your goal instead. You can only use RENAME to move files around on the same disk.

216 DIRECTORY NOT EMPTY : This happens if you try to delete a directory when it still contains some files in it. You must empty a directory first before DOS will allow you to delete the directory itself.

218 DEVICE NOT MOUNTED : You've asked DOS to access a device such as a disk that was not in the drive or a printer which is not hooked up. You can use the INFO command to find out what devices are mounted at any given time.

220 COMMENT TOO BIG : This occurs when using FILENOTE to add a comment to a file and you try to use too many characters. You can use a maximum of 80 characters in a file comment.

221 DISK FULL : You guessed it! The disk you want to write to has run out of space and will not accommodate all the data you want to put on it. Time to format another blank disk!

222 FILE IS PROTECTED FROM DELETION : Somewhere along the line, the delete flag has been set to protect this file from accidental deletion. (Check out Part 2 of this tutorial for more information on Protection bits).

223 FILE IS PROTECTED FROM WRIT-

ING : Similar to 222, this file is protected from being written to!

224 FILE IS PROTECTED FROM READING : Again this has to do with Protection bits, this time the read flag has been cleared and DOS won't allow you to read the file until you re-set the flag with the help of the PROTECT command!

225 NOT A DOS DISK : DOS can not read the disk you've inserted in the drive for any one of a few reasons. It might be corrupt, a blank un-formatted disk or even a KickStart disk.

226 NO DISK IN DRIVE : Similar in a way to error 218, however this time DOS recognises that the disk you wish to access is mounted, it's just telling you that it is not in the drive!

So there you have it. The above is by no means a fully detailed explanation or listing of ALL the error codes which DOS might throw at you, however all the most common ones that you might get are there.

Well, that brings us to end of yet another journey into the world of the Amiga's CLI. Next issue, we'll be looking at a few more commands and tips for the CLI and we might also touch on the subject of the "Amiga Dos Replacement Project" (ARP) available freely in the public domain. This is an excellent effort by the authors which opens up a whole new ball game when working with DOS commands.

So stick with us and you never know what little mysteries might be revealed in future issues. Till then, keep on experimenting with what you've been shown to date and have some fun. Feel free to send any queries, suggest topics and even spare money to the editor (addressed to ME!) anytime.

Till then ...

CHEST - TOP PUBLISHING WITH "ROMAC" HEAT TRANSFER RIBBONS

Earn extra income by supplying custom printed t-shirts etc. in vivid colours on your dot matrix printers by simply ironing on. Supply to friends, clubs, schools etc. Print in colour on your mono printer. Available in 7 individual colours or multi-colour for colour printers. Fully washable and colourfast. Ring now for prices and availability.

Romac Computers
PO Box N122
Petersham Nth 2049
Ph: (02) 547 2306
Fax: (02) 547 2813



DEALER ENQUIRIES WELCOME

"IF YOU CAN PRINT IT YOU CAN WEAR IT"



AMIGA

9-15 BUNGAN ST (ENTRANCE AKUNA LANE) MONA VALE

FUN & GAMES

3-D POOL	\$49.95
5TH GEAR	\$39.95
688 ATTACK SUB	\$45.95
A.P.B.	\$49.95
ACTION FIGHTER	\$69.95
ADVENTURE PAK - COMP(4 IN1)	\$59.95
ALL DOGS GO TO HEAVEN	\$69.95
ALTERED BEASTS	\$59.95
AMERICAN DREAMS	\$59.95
AMOS THE CREATOR - SPECIAL	\$125.00
AQUANAUT	\$39.95
ARMADA	\$49.95
ARTHUR - QUEST FOR EXCALIBUR	\$59.95
ASTERIX****	\$49.95
ASTRO MARINE CORPS	\$69.95
BARDS TALE 2	\$49.95
BATMAN - CAPE CRUSADER	\$59.95
BATMAN - THE MOVIE	\$59.95
BATTLE CHESS	\$61.95
BATTLE SQUADRON	\$59.95
BATTLE VALLEY	\$49.94
BATTLESHIPS	\$19.95
BEACH VOLLEY	\$49.95
BERMUDA PROJECT	\$59.95
BEVERLEY HILLS COP	\$49.95
BIO CHALLENGE	\$49.95
BLACK TIGER	\$49.95
BLUE ANGEL 69 - HI NUGGETS	\$49.95
BLUE ANGELS FLIGHT SIM (NEW!)	\$59.95
BORODINO	\$49.95
BRIDGE PLAYER	\$59.95
BUBBLE+	\$49.95
BUBBLE BOBBLE - 2 CAN PLAY	\$59.95
BUDOKAN	\$49.95
BUFFALO BILLS RODEO	\$59.95
CABAL	\$49.95
CASINO GAMBLING TRUMP CASTLE	\$59.95
CASTLE MASTER	\$39.95
CASTLE WARRIOR	\$69.95
CHAMPIONS OF KRYNN - YEEHAA!!	\$54.95
CHARIOTS OF WRATH	\$49.95
CHASE HQ	\$49.95
CHESS PLAYER 2150	\$69.95
CHICAGO 90	\$49.95
CHRONO QUEST II	\$79.95
COMMANDOS	\$59.95
CONTINENTAL CIRCUS - SPECIAL	\$45.00
CRAZY SHOT USES GUNMOUSE	\$49.95
CREATURES USES GUNMOUSE	\$49.95
CYBERBALL	\$49.95
D.R.A.G.O.N.FORCE	\$69.95
DANGERFREAK	\$61.95
DARIUS+	\$49.95
DARK CENTURY - ONLY ATARI'S!	\$59.95
DARK SIDE - NO AMIGAS!	\$49.95
DAY OF THE PHAROH	\$54.95
DAY OF THE VIPER	\$59.95
DEJA VU II	\$69.95
DEMONS TOMB	\$84.95
DEMONS WINTER	\$45.95
DISTANT SUNS - FAR DAUGHTERS!	\$79.95
DOUBLE DRAGON II	\$54.95
DR PLUMMETS HOUSE OF FLUX	\$49.95
DR DOOMS REVENGE	\$54.95
DRAGON OF FLAME - AD & D	\$45.95

DRAGON SPIRIT - SPECIAL	\$39.00	LORDS OF THE RISING SUN	\$69.95
DRAGONS BREATH - USE COLGATE	\$79.95	LOST DUTCHMAN'S MINE - DAY KEN	\$69.95
DRAGONS LAIR II	\$89.95	MANHUNTER NEW YORK	\$61.95
DRAKKEN	\$59.95	MANIAC MANSION - THCD	\$61.95
DREAM ZONE - AMIGA 1000 USERS!	\$39.95	MAYDAY SQUAD	\$49.95
DRIVING FORCE	\$59.95	MICROPROSE SOCCER	\$59.95
DUNGEON MASTER 1 MEG SPECIFY	\$61.95	MIDWINTER	\$79.95
DUNGEON MASTER 512K	\$61.95	MILLENIUM 22	\$52.95
DYNAMITE DUX!	\$59.95	MORTVILLE MANOR	\$39.95
ELITE + CARRIER COMMAND	\$79.95	MOTORBIKE MADNESS - DAY RICHARD	\$19.95
ELITE GAMES PACK VOL 1	\$49.95	MR HELI	\$59.95
EMPEROR OF THE MINES	\$49.95	MURDER ON THE ATLANTIC	\$49.95
EXTRA TIME-FOR KICKOFF	\$59.95	NAVY MOVES	\$39.95
F-19 STEALTH FIGHTER - 4000 MISSIONS	\$89.95	NEVERMIND - BUY AN AMIGA!	\$54.95
F.O.F.T.	\$69.95	NEW ZEALAND STORY - BAAA!	\$59.95
F29 RETALIATOR HOT!!!	\$61.95	NINJA WARRIORS	\$54.95
FA/18 INTERCEPTOR- ON A 2500	\$45.95	NORTH AND SOUTH	\$59.95
FAERY TALE - TAKES MONTHS TO PLAY	\$89.95	NUCLEAR WAR	\$49.95
FALCON MISSION DISK	\$49.95	OIL EMPORIUM	\$54.95
FAST BREAK	\$49.95	OMEGA	\$59.95
FERRARI FORMULA ONE	\$45.95	ONSLAUGHT	\$49.95
FIENDISH FREDDY - HURRY!	\$55.00	OOZE	\$49.95
FIGHTER BOMBER HOT!!	\$49.95	P47	\$59.95
FIRE AND BRIMSTONE	\$59.95	PAPERBOY	\$49.95
FIRE BRIGADE	\$49.95	PARIS - DAKAR CAR RALLY	\$59.95
FIRST CONTACT	\$49.95	PERSIAN GULF INFERNO	\$69.95
FORGOTTEN WORLDS	\$49.95	PHANTASM	\$29.95
FULL METAL PLANETE	\$59.95	PHASER GUN - SPECIAL	\$39.95
FUSION - SPECIAL	\$35.00	PICTIONARY	\$45.95
FUTURE DREAMS - AMIGA 3000'S FOR ALL	\$59.95	PINBALL MAGIC	\$39.95
GARFIELDS WINTER TALE - DAY	\$49.95	PIPE MANIA	\$59.95
GHOSTS & GOBLINS - GREAT CONVERT	\$59.95	PIRATES - MICROPROSE - HOT	\$59.95
GOLDRUSH - SPECIAL	\$49.95	POLICE QUEST	\$61.95
GRAND NATIONAL (HORSES)	\$49.95	POOL	\$19.95
GRETZY HOCKEY	\$69.95	POPULOUS DATA DISK	\$29.95
HARD DRIVIN'-TO MONA VALE	\$49.95	PORTS OF CALL - STILL HOT! GEOFF	\$39.95
HERO'S QUEST	\$59.95	POWERDRIFT	\$59.95
HEWSONS PREMIER COLLECTION	\$49.95	POWERDROME - SPECIAL	\$39.00
HIGHWAY PATROL II	\$59.95	PRECISION APPROACH 727 TRAINER	\$129.00
HILLSFAR DUNGEONS & DRAGONS	\$45.95	PREMIER COLLECTION - LOTS A GAMES	\$49.95
HOUND OF SHADOW	\$49.95	PRISON	\$49.95
HUNT FOR RED OCTOBER	\$44.95	PUFFY'S SAGA	\$59.95
I LUDICRUS	\$59.95	PURPLE SATIN DAY	\$52.95
IKARI WARRIORS	\$19.95	PYSCHO	\$49.95
INDIANA JONES - TEMPLE OF DOOM	\$69.95	QUADRALIEN	\$69.95
INTERPHASE	\$59.95	QUARTZ	\$49.95
IRON LORD	\$59.95	RAINBOW ISLANDS - GET PAST THE CHOPPER	\$59.95
ITALY 1990 - GREAT SOCCER	\$59.95	REALM OF THE TROLLS	\$61.95
IT CAME FROM THE DESERT - SPECIAL	\$54.95	RED LIGHTNING - SPECIAL	\$45.00
JUMPING JACKSON	\$49.95	RESOLUTION 101	\$59.95
KEEF THE THIEF	\$49.95	RICK DANGEROUS	\$49.95
KELLY X	\$19.95	ROADWARS - WITH SYDNEY TAXIS	\$19.95
KENNY DALGLISH SOCCER	\$49.95	ROMANCE OF 3 KINGDOMS	\$99.95
KID GLOVES	\$69.95	RVF HONDA	\$49.95
KINGS QUEST! - HELP ME I'M STUCK	\$44.95	S.D.I.	\$59.95
KINGS QUEST II	\$44.95	SAFARI GUNS	\$49.95
KINGS QUEST III	\$44.95	SCRAMBLE SPIRITS	\$49.95
KLAX	\$49.95	SHADOW OF THE BEAST - BEAST IS SOON!	\$59.95
KONIX SPEEDKING JOYSTICK - GREAT	\$39.95	SHADOWGATE	\$69.95
LAST NINJA2 - THE VERY LAST (NEW)	\$59.95	SHINOBI	\$54.95
LEISURE SUIT LARRY - KEN SENT ME!	\$52.95	SHUFFLEPUCK CAFE - AT THE HARD DISK	\$59.95
LEISURE SUIT LARRY II	\$52.95	SIDESHOW - WITH MUNCHIES - USES GUN	\$49.95
LEISURE SUIT LARRY III - BUY HINT BOOK	\$79.95	SILENT SERVICE - SSII COMING SOON!	\$49.95
LICENSE TO KILL - ATARI	\$49.95	SIM CITY MEGA HOT!!!	\$84.95
LITTLE COMPUTER PEOPLE ARE..		SIM CITY TERRAIN EDITOR	\$34.95
KAREN, DARREN, ROB, ROB	\$19.95	SIR FRED THE LEGEND	\$59.95
LOMBARD RALLY	\$59.95	SKATE OF THE ART	\$69.95

AMIGA'S ARE

SPECIALISTS

PHONE (02) 979 5833 FAX (02) 979 6629



SKIDOO	\$39.95
SKWEEK	\$49.95
SKYCHASE	\$52.95
SLEEPING GODS LIE	\$69.95
SOLITAIRE - VOL1 SEA HAVEN	\$39.95
SOLITAIRE - VOL2 CALCULATION	\$39.95
SOLITAIRE - VOL3 ACCORDION	\$39.95
SPACE AGE - SPECIAL	\$79.95
SPACE CONQUEST	\$49.95
SPACE QUEST	\$44.95
SPACE QUEST II	\$42.95
SPACE QUEST III	\$59.95
SPACE RACER	\$49.95
SPACE SCHOOL	\$39.95
STAR BREAKER	\$49.95
STAR COMMAND	\$45.95
STAR CURSOR J/S 3 YEAR GUARANTEE!	\$54.95
STAR RAID	\$49.95
STAR RAY	\$49.95
STAR WARS - SPECIAL	\$29.95
STAR WARS TRILOGY	\$59.95
STEEL	\$49.95
STELLAR CRUSADE	\$49.95
STRYX	\$54.95
SUPERMAN - MAN OF STEEL	\$49.95
SUPERMAN - NEW	\$49.95
SWORDS OF TWILIGHT	\$45.95
TARGHAN	\$44.95
THEIR FINEST HOUR	\$59.95
TEENAGE MUTANT N.T.s	\$69.95
THE 3RD COURIER - HI TO OUR COMET MANI	\$59.95
THE CHAMP	\$59.95
THE CYCLES	\$59.95
THE DAY OF THE PHAROH	\$54.95
THE HOUND OF SHADOW	\$49.95
THE STORY SO FAR	\$49.95
THE STORY SO FAR VOL 3	\$49.95
THE TOYETTES	\$49.95
THUNDERBIRDS - ARE GO SAYS VIRGIL TIME	\$59.95
TOTAL ECLIPSE - SAYS BONNIE	\$49.95
TOWER OF BABEL	\$59.95
TRACKSUIT MANAGER - SOCCER	\$39.95
TREASURE TRAP	\$59.95
TRIAD VOL 2	\$59.95
TRIAD VOL 3	\$59.95
TV SPORTS BASKETBALL	\$69.95
TV SPORTS FOOTBALL	\$69.95
TWIN WORLD - TIFFANY 4 ALIX	\$49.95
TWO UP	\$29.95
U.M.S SCENARIO DISK 2	\$29.95
UNREAL - AT THE HARD DISK CAFE!	\$59.95
VEGAS GAMBLER	\$49.95
VINDICATORS	\$49.95
VOYAGER - KAKADU (CROCODILE)BERT	\$61.95
WATERLOO	\$59.95
WAYNE GRETSKY HOCKEY	\$69.95
WEIRD DREAMS	\$59.95
WEST Phaser Gun & Game	\$89.95
WICKED	\$59.95
WILLOW	\$69.95
WINDWALKER	\$49.95
WINTER GAMES	\$39.95
WOLF PACK - NOT FOR 2500's TREV	Soon?
WORLD CLASS L/BOARD GOLF	\$49.95
WORLD CUP SOCCER	\$59.95
WORLD TOUR GOLF	\$45.95

X-OUT	\$59.95
XENON II	\$59.95
XYBOTS	\$49.95
ZANY GOLF	\$49.94
ZORK ZERO	\$64.95

SUPERBACK	\$99.00
SYSTEM 3 (Accounts)	\$129.00
TV TEXT PROFESSIONAL	\$259.00
THE ART DEPARTMENT	\$129.00
VIDEO TITLER	\$169.00

PRODUCTIVITY

ADVANTAGE	\$279.00
AWARD MAKER PLUS	\$49.95
AMIGAVISION - THIS IS SPECIAL!!	\$199.00
AMIGA POSTCODE	\$49.95
ART PARTS - DPAIN III	\$49.95
AMOS	\$125.00
ASSEMPRO	\$149.00
ATALK III	\$69.95
BUSINESS CARD MAKER	\$69.95
BUMPER STICKER MAKER	\$79.95
CALCKEY VER 1.2	\$29.95
- CRITICS CHOICE SPECIAL INCLUDES -	
MICROFICHE FILER, MAXPLAN 500, KINDWORDS	129.00
CROSS DOS - NEW VERSION 4.0	\$64.95
DELUXE PAINT III - NEW PRICE!!!	\$164.95
DELUXE VIDEO III	\$164.00
DELUXE PHOTO LAB	\$209.00
DIGIMATE III	\$59.95
DESKTOP BUDGET - SPECIAL	\$49.95
DIGIPAIN 3	\$129.00
DG CALC	\$89.95
DB IV MAN - DBASE III + FOR AMIGA	\$399.00
DIGIVIEW GOLD 4	\$269.00
DIGIDROID	\$159.00
DPRINT II (NEW 1.3 DRIVERS)	\$149.00
DUNLAP UTILITIES	\$99.00
EASY LEDGERS ACCOUNTING	\$375.00
ELECTRONIC DEBTORS SYSTEM	\$299.00
ELAN PERFORMER	\$89.95
FACC II-SPEEDS UP DRIVES	\$54.95
FREELANCE DATABASE	\$49.95
FORMATION	\$99.00
FLIPSIDE	\$39.95
FANTAVISION	\$99.95
GOLDSPELL II	\$44.95
HOMEBUILDERS CAD	\$299.00
INTROCAD	\$99.00
MAC TO DOS	\$189.00
MAXIPLAN PLUS - SPECIAL	\$89.00
MICROFICHE FILER - SPECIAL	\$89.00
PAGESETTER II - C/GRAFIC FONTS	\$175.00
PEN PAL - WORD PRO	\$199.00
PIXELSCRIPT - POSTSCRIPT	\$199.00
POSTCODE FOR AUSSIE SEARCHER	\$49.00
PHOTON PAINT V2 HAM PAINT PRO	\$199.00
PROFESSIONAL PAGE V1.3	\$399.00
PROFESSIONAL DRAW 2.0 AUTO TRACE	\$399.00
ECLIPS - PRO DRAW/PAGE CLIP ART	\$139.00
PROWRITE V3 - KAREN'S FAVORITE	\$199.00
PRO VIDEO PLUS (PAL)	\$489.00
PRO VIDEO FONTS (SET2)	\$149.00
PRINTMASTER ART GALLERY I	\$49.95
PAGESTREAM V.2	\$249.00
PAGESTREAM FONTS VOL 1.1	\$59.95
QUARTERBACK - FOR HARD DRIVES	\$99.00
SEASONS & HOLIDAYS CLIP ART	\$45.95
SMARTKEY	\$59.95
SPRITZ	\$99.95

SOUND N' MUSIC

ROB'S COLUMN

AUDIO MASTER III	\$119.00
AUDIO ENGINEER	\$CALL
BARS & PIPES - NEW MUSIC PAK	\$299.00
DR. TS COPYIST APPERTICE	\$149.00
DR. TS COPYIST DTP	\$449.00
DR. TS ESQAPADE	\$169.00
DR. TS KCS 3	\$299.00
DR. TS KCS LEVEL II	\$399.00
DR. TS MIDI RECORDING STUDIO	\$84.95
DR. TS MUSIC MOUSE	\$99.00
DR. TS PHANTOM (SMPTE SYNCH)	\$139.00
DR. TS TIGER CUB	\$119.00
DELUXE MUSIC CONSTRUCTION SET	\$164.00
ECE MIDI	\$199.00
ENUNCIATOR	\$34.95
MASTER SOUND	\$89.95
MIDI MAGIC	\$299.00
MUSIC X - ROB'S SPECIAL	\$299.00
PERFECT SOUND 3.0	\$249.00
POCKET AMI - SPECIAL	\$89.95
SONIX 2.0 - MUSIC	\$99.00

WHATS NEW & HOT!

**AMIGAVISION!.
CRITICS CHOICE.
TEENAGE MUTANT NINJA
TURTLES.**

**F-19 STEALTH FIGHTER
HP DESKWRITER
CINEMAWARE PACK
DIGIVIEW SWITCHBOX
AMIGA 3000'S!**

G'DAY!

HI TO THE FALKENBERG BROTHERS
IN DARWIN AND S.A. BOTH ARE
HAPPY NEW A2500 OWNERS.
"MUSIC ROB" HAS BEEN INUNDATED
WITH QUERIES, SO HE'S "IN HOUSE"
MOST DAYS NOW SO CALL IN AND
SEE HIM. HI TO THE NEW POWER
USERS ON THE CENTRAL COAST.
BILL, IAN, JEFF, JACKO.
HAPPY HACKING GUYS & GALS

HOT! AT

**AMIGA
VISION**



**AMIGA
3000**

EDUCATION

AB ZOO - READING & TYPING	AGE 3-6	\$39.95
ALPHABET	PRESCHOOL	\$49.95
ANIMAL KINGDOM	AGE 6-12	\$69.95
ARITHMETIC	HIGH SCHOOL	\$69.95
ASSOCIATED - WORD ASSOCIATION	AGE 3-8	\$39.95
BAMBINOS JIGSAW PUZZLE	AGE 3-8	\$39.95
BASIC GRAMMER	AGE 7 & UP	\$49.95
CROSS OUT THE INTRUDER	AGE 3-8	\$39.95
DECIMAL DUNGEON	AGE 5 & UP	\$69.95
DISCOVER ALPHABET	AGE 6 & UP	\$39.95
DISCOVER CHEMISTRY	AGE 12 & UP	\$39.95
DISCOVER MATHS	AGE 10 & UP	\$39.95
DISCOVER NUMBERS	AGE 6 & UP	\$39.95
DISCOVERY GEOGRAPHY EXPANSION DISK	GRADE 9-12	\$29.95
DISCOVERY HISTORY EXPANSION DISK	GRADE 9-12	\$29.95
DISCOVERY MATHS MASTER DISK	GRADE 1-7	\$59.95
DISCOVERY SCIENCE EXPANSION DISK	GRADE 9-12	\$29.95
DISCOVERY SOCIAL STUDIES EXPANSION DISK	GRADE 9-12	\$29.95
DISCOVERY SPELL MASTER DISK	GRADE 1-7	\$59.95
DISCOVERY TRIVIA 1 EXPANSION DISK	VARIOUS	\$29.95
DISCOVERY TRIVIA 2 EXPANSION DISK	VARIOUS	\$29.95
EZ-GRADE (TEACHERS GRADEBOOK)	TEACHERS	\$89.95
FUN SCHOOL 2	AGE 6-8	\$49.95
FUN SCHOOL 2	OVER 8	\$49.95
FUN SCHOOL 2	UNDER 6	\$49.95
GLOBAL TREK	VARIOUS	\$34.95
KIDS COLLECTION	AGE 3-7	\$59.95
KINDERAMA	PRESCHOOL-6	\$69.95
MATH A MAGICIAN		\$49.95
MATH BLASTER PLUS - NEW & PRINTS CERTIFICATE	PRIMARY	\$69.95
MATH WIZARD	AGE 5-10	\$69.95
MEDAL WINNER		\$49.95
MEMORISE	AGE 3-8	\$39.95
PLANET PROBE		\$49.95
PROBABILITY	HIGH SCHOOL	\$69.95
READ A RAMA	AGE 5 & UP	\$69.95
ROBOT READERS - AESOP'S FABLES		\$34.95
ROBOT READERS - THE LITTLE RED HEN	AGE 4-8	\$34.95
ROBOT READERS - THE THREE BEARS	AGE 4-8	\$34.95
ROBOT READERS - THE THREE LITTLE PIGS	AGE 4-8	\$34.95
ROBOT READERS - THE UGLY DUCKLING	AGE 4-8	\$34.95
SESAME STREET - LETTERS FOR YOU		\$49.95
SESAME STREET - NUMBERS COUNT		\$49.95
SESAME STREET - OPPOSITES ATTRACT		\$49.95
SPACE MATH	AGE 8 & UP	\$39.95
SPELL BOOK	AGE 4-6	\$39.95
SPELL BOOK	AGE 7 & UP	\$39.95
SPELBOUND		\$59.95
SUM-IT MOUNTAIN		\$49.95
SUNNYSIDE UP		\$49.95
TALES OF THE ARABIAN NIGHTS	AGE 8-12	\$69.95
TALKING COLOURING BOOK	PRESCHOOL	\$49.95
THE BIRDS & THE BEES - SEX EDUCATION	AGE 7-12	\$39.95
THINGS TO DO WITH NUMBERS	PRIMARY	\$39.95
THINGS TO DO WITH WORDS	PRIMARY	\$39.95
TRACKERS QUEST	AGE 4 & UP	\$54.95
TRIGONOMETRY	HIGH SCHOOL	\$69.95
WHERE IN EUROPE IS CARMEN SANDIEGO?	VARIOUS	\$84.95
WHERE IN THE USA IS CARMEN SANDIEGO?	VARIOUS	\$84.95
WHERE IN WORLD IS CARMEN SANDIEGO?	VARIOUS	\$84.95
WHERE IN TIME IS CARMEN SANDIEGO?	- SHOULD BE HERE NOW!	\$CALL
WORD MASTER	AGE 3-8	\$69.95

COMPUTERS & PERIPHERALS

AMIGA 500 COMPUTER	\$799.00
AMIGA 500 STARTER KIT II + VIDEO + EXTRA GAMES	\$875.00
AMIGA 512K RAM EXPANSION & CLOCK - SPECIAL	\$150.00
AMIGA EXTERNAL DRIVE	\$175.00
AMIGA A590 HARD DRIVE (EXPANDABLE)	\$750.00
AMIGA 2000	\$1850.00
AMIGA 2000+40 MG/HD	\$2950.00
AMIGA 3000 WITH OS Version 2.0	\$WOW!
AMIGA 2091/40HD QUANTUM 2MB - OPT	\$1100.00
1084S COLOUR MONITOR	\$499.00
XT BRIDGEBOARD (A2000) (LIMITED STOCKS)	\$699.00
ULTIMATE PC XT FOR YOUR AMIGA - PC COLT	\$799.00
BIG BLUE AMIGA (Now in stock) GREAT !!	\$799.00
KURTA GRAPHIC TABLET	\$899.00
PRISM COLOUR SPLITTER - THE BEST! - HI WAL!	\$499.00
SHARP COLOUR SCANNER JX-100 (FLAT BED)	SCALL
VIDI-AMIGA FRAME GRABBER	\$329.00
CANON STILL VIDEO CAMERA	\$CALL
CANON WIDE ANGLE LENS	\$110.00
COMMODORE A2300 INTERNAL GENLOCK	\$599.00
NERIKI DESKTOP GENLOCK (Y/C)	\$1199.00
VIDTEK SCANLOCK GENLOCK (Y/C)	\$2095.00
CITIZEN 200-GX 9 PIN COLOUR PRINTER	\$475.00
CITIZEN 5800 9 PIN B/W PRINTER	\$350.00
CITIZEN GSX-140 24 PIN COLOUR PRINTER	\$799.00
HP DESKJET 300DP1 LASER QUALITY B/W	\$1275.00
1.3 ROM CHIPS	\$29.95
DISK DRIVE EXTENSION CABLE	\$29.95
1084S MONITOR EXTENSION CABLE	\$39.95
JOYSTICK EXTENSION CABLE	\$10.50
MITY MOUSE JOY/MOUSE SWITCH BOX	\$49.95
STEREO/MONITOR SWITCH BOX	\$29.95
HARRIS HI-TEK ANTI-GLARE SCREENS	\$39.95

● ORDER HERE ●

QTY	DESCRIPTION	PRICE
TOTAL =		

ALL ITEMS LISTED ARE IN STOCK AT TIME OF PRINTING AND WILL BE SENT SAME DAY.

TICK A BOX BELOW:

CHEQUE ENCLOSED

PLEASE DEBIT MY BANKCARD

PLEASE DEBIT MY MASTERCARD

PLEASE DEBIT MY VISACARD

THE HARD DISK CAFE

SHOP 9-15 BUNGAN STREET

(ENTRANCE AKUNA LANE)

MONA VALE NSW 2103

PHONE (02) 994 441

FAX (02) 979 6629

EXPIRY DATE _____

DO NOT SEND CASH!!

ADD \$3.00 SOFTWARE POST
H/WARE, CALL FOR ARRANGEMENTS
ALLOW 14 DAYS DELIVERY.
ALL PRICES SUBJECT TO CHANGE

AUTHORISED
EDUCATION DEALER

THE HARD DISK CAFE

The Geos Column

by Bruce Lyon

Last time we reviewed *Geochart* from a user perspective. This month in our user section we'll be looking at some tips for using *Geos* in ways that are not immediately obvious. In the programming section, we'll be discussing one of the more interesting aspects of the *Geos* Kernel, which gives *Geos* its very powerful characteristics - including multi-tasking (who thought this only happened on the Amiga?).

In coming issues, we will be looking at the most impressive software for the end-user in the *Geos* range, *Geopublish*. This piece of software is truly amazing for the features and price, even compared to *Ventura* on the IBM. Additionally, we will be covering using disk drives other than the 1541, Ram drives and many other goodies.

User issues

Perhaps you have just spent some lofty moments composing some text. Maybe a letter, some minutes from a committee meeting, an agenda, advertising blurb, invitation, or other item which requires multiple copies. The question arises, apart from the photocopier, how can you print multiple copies using *Geos*?

The answer is not immediately obvious. *Geowrite* does not provide any direct facilities to do this. You can only print one copy at a time. Thirty copies would be rather painful! But wait, there is an easy solution! I have used this technique many times.

If you have purchased *Deskpak 1*, or have *Geos v2.0*, you will have a copy of the utility, "Geomerge". This beaut little utility provides a specialised print merge facility. This means you can merge say, a list of names and addresses, with a letter, having multiple copies of the letter with the names and addresses inserted at de-

fined places in the letter.

You define these places using the construct <<tagname>> where << is two 'less than' signs in a row. A "tagname" is a label for the data you want merged, eg: firstname, lastname etc. In the merge data file (eg names and addresses file), each data item is on a separate line, and a complete set of data (a record) is separated by an asterisk (*) on its own line. I won't go into any more detail here, as the manuals for *Geos v2.0* or *Deskpak 1* explain all, to the usual Berkeley standard.

Normally, you make up your 'form'

FREE CHEAP DISKS

100 PAGE CATALOGUE
PLEASE CALL IN & PICK ONE UP

FREE DELIVERY OVER \$100

"NO BRAND"

BOXES OF 10 DISKS LIFETIME WARRANTY

1-9	10+	50+	100+	500+
5 1/4" DS/DD \$5.20	\$4.90	\$4.80	\$4.60	\$4.50
5 1/4" DS/DD \$12.50	\$11.50	\$10.75	\$9.80	\$9.50
3 1/2" DS/DD \$12.50	\$11.50	\$10.75	\$9.80	\$9.50
3 1/2" DS/DD \$32.50	\$29.50	\$29.00	\$28.50	\$27.50

ROD IRVING ELECTRONICS
MELBOURNE: 48 A'Beckett St. City. PH: (03) 663 6151
NORTHCOTE: 425 High St. Northcote. PH: (03) 489 8866
SYDNEY: 74 Parramatta Rd. St. Iannone. PH: (02) 519 3134
MAIL ORDER: 56 Renner Rd. Clayton. PH: (03) 543 7877
HOTLINE: 008 33 5757

NOW available at leading Computer Outlets

COCKROACH SOFTWARE

TURBO ROM

CARTRIDGE ... \$39.95 R.Retail

GRAPHICS

UTILITY ... \$59.95 R.Retail

Dealer Enquiries to:

MULTICOIN AMUSEMENTS PTY LTD

ph: 075 37 5711 Fax: 075 37 3743

letter with appropriate insertions of <<tagnames>> where you want the data merged. But you don't actually need to insert any <<tagsnames>> labels in your letter, and what's more you don't need to have any data in the merge data file. *Geomerge* doesn't care. It will just continue to print the letter for as many asterisk separators as it finds in the data file. So there is the trick. Create a short *Geowrite* file as follows :

```
<return>
*<return>
<return>
*<return>
<return>
*<return>
<return>
*<return>
```

Note the sequence '<return>' means the return key, not typing the text. This little file, when used as the merge data file, will produce three copies (one less than the number of asterisks) of the source document. Voila! Just make a file with as many asterisks plus one as copies required! Use the *Geowrite* cut and paste facility to make this task easier.

There is nearly always an easier way to achieve a result, or was that many ways to skin a cat...

A4 paper and GEOS

Another tip when using *Geos*, you will find all the printer drivers supplied assume 11 inch paper (American standard - 66 x 1/6 inch line a page). When you are buying your continuous paper, do NOT buy A4, as this equates to about 70 lines, and hence the *Geos* documents will 'page slip'.

Unfortunately, there isn't an easy way to adjust the page length to 70 directly, and 66 line paper is readily available from computer supply shops anyway. Actually, I will be detailing a way of setting the line length to 70 or some other figure, but this will be in a future issue of the programming section.

You can still use single sheet A4 quite successfully, but you must select the single sheet printing option to allow the printer to pause for each sheet, and you must manually feed each document through (okay for short runs only!).

One possible way around this, is if your printer allows a hardware dip

Cont. on page 60



Interlink...

AMIGA

- GAMES - ARCADE

ALL DOGS HEAVEN	39.50	STARLORD	59.50	KICK OFF EXP.	39.00	WINGS	59.50
ALTERED BEAST	49.50	STRIDER	59.00	O-P BASKETBALL	59.00	SPREADSH'S	SCENE GENERATOR 59.50
ANT HEADS	29.50	STUNT CAR RACER	59.00	O-P HORSERACING	59.00	ADVANTAGE	SCULPT 3DXL 259.00
ASTERIX	59.00	SUPER WONDERBOY	49.00	PRO TENNIS	59.00	ANALYZE!	SCULPT 4D JNR 229.00
BAD COMPANY	49.00	SWITCHBLADE	49.00	RALLY CROSS	49.00	TOP FORM	TOP FORM 119.00
BARBARIAN II	59.00	TEENAGE MUTANT NINJA	49.00	STREET ROD	49.50	TURBO SILVER 3D	TURBO SILVER 3D 239.00
BATMAN "MOVIE"	59.00	TURTLES	59.50	TENNIS CUP	39.50	TV TEXT PROF.	TV TEXT PROF. 239.00
BATTLE SQUADRON	59.00	TEST DRIVE II	49.00	THE CYCLES	59.00	VIDEOSCAPE 3D	VIDEOSCAPE 3D 249.00
BATTLEHAWKS	59.00	T.D. II DISKS	39.00	TV SP. BASEBALL	CAIL	X-CAD DESIGNER	X-CAD DESIGNER 179.00
BEVERLY HILLS COP	44.00	THE JETSONS	49.00	TV SP. BASKETB'L	69.00	ZOETROPE	ZOETROPE 169.00
BLACK TIGER	49.50	THE MANHOLE	89.00	TV SP. FOOTBALL	69.00		
BLOCK OUT	59.00	THE PLAGUE	54.50	ULTIMATE DARTS	49.00		
BOMB JACK	49.00	TOOBIN'	49.00	WORLD CUP SOCCER	49.50		
BUDOKAN	49.50	TURRICAN	49.50				
CABAL	59.00	UNREAL	59.50				
CADAVER	59.00	WEST PHASAR	99.50				
CARTHAGE	59.00	WILD STREETS	59.00				
CASTLE WARRIOR	69.00	BANDIT KINGS OF A.C.	82.50				
CHASE H.Q.	59.00	BARD'S TALE I/II	49.00				
CLOUD KINGDOM	59.50	BLOODWYCH	59.00				
COLONY	66.50	CASTLE MASTER	59.50				
COMBO RACER	59.50	CHAMPIONS KRYNN	54.50				
COMMANDO	49.00	CHAOS STR'K BACK	CALL				
CRACK DOWN	59.50	CHRONO QUEST II	69.50				
CREATURE	49.50	CODENAME ICEMAN	CALL				
CYBERBALL	49.50	COLONELS BEQUEST	CALL				
DAYS OF PHARAOH	59.00	C'QUEST / CAMELOT	CALL				
DEFLECTOR	49.00	DRAGON'S BREATH	69.50				
DOGS OF WAR	44.00	DRAGONS FLAME	49.00				
DOUBLE DRAGON II	59.00	EXCELLENCE	189.00				
DRAGON NINJA	59.00	EXCELLENCE2	299.00				
DRAGON'S LAIR II	89.00	KIND WORDS II	99.00				
E-MOTION	59.50	PEN PAL	189.00				
FACE OFF	39.00	ELVIRA	59.50				
FALLEN ANGEL	49.00						
FLIMBO'S QUEST	59.50						
FLOOD	49.50						
GHOSTBUSTERS II	59.00						
GHOSH'n GOBLINS	59.00						
GRID RUNNER	39.50						
GUNSHIP	49.00						
HAMMERFIST	59.50						
HARD DRIVIN'	59.00						
HOT ROD	54.50						
INDIANA JONES ARC	49.00						
INTERPHASE	59.00						
IT CAME FROM THE DESERT	59.00						
IVANHOE	59.50						
JUMPIN' JACKSON	49.50						
KID GLOVES	59.50						
LIGHT FORCE COMP.	59.00						
LORDS RISING SUN	69.00						
LOST PATROL	59.50						
NINJA SPIRIT	59.50						
NINJA WARRIORS	54.00						
NZ STORY	59.00						
ONSLAUGHT	54.00						
OP. THUND'R BOLT	59.00						
PINBALL MAGIC	39.00						
PIPE MANIA	59.50						
POWERDRIFT	59.00						
POWERDROME	59.00						
PRECIOUS METAL	59.00						
RAINBOW ISLANDS	49.00						
REACH FOR STARS	49.00						
RESOLUTION 101	59.50						
RICK DANGEROUS	49.00						
ROCK & ROLL	49.00						
SHADOW OF BEAST	59.00	3D POOL	49.00	FLIGHT SIMS			
SHUFFLEP'K CAFE	49.00	CYBERBALL	49.50				
SILKWORM	49.00	FIGHTING SOCCER	59.00	BOMBER	49.50		
SKWEEK	49.00	G. NORMAN GOLF	59.50	BOMBER MISSION	37.50		
SPACE ACE	89.00	HARLEY DAVIDSON	59.50	F16 COMBAT PILOT	49.50		
SPACE HARRIER II	49.00	HOCKEY SIMULATOR	49.50	F19 STEALTH FTER	59.50		
SPACE ROGUE	59.50	HONDA RVF	49.00	F29 RETALIATOR	59.50		
SPEEDBALL 2	CALL	J. NICKLAUS GOLF	59.00	FALCON	54.00		
STAR GLIDER II	49.00	KICK OFF II	59.50	FALCON MISSION	49.00		
STARFLIGHT	49.00	KICK OFF PLR/MGR	49.50	THEIR FINEST HOUR	64.50		
				PRO PAGE 1.3	379.00		
				PAGE FESTREAM V2	395.00		
				PAGESETTR. FONTS ea.	54.00		
				PAGESTREAM FORMS	54.50		
				PROF'L DRAW 2	CALL		
				PUBLISH'R CHOICE	195.00		
				SAXON PUBLISHER	595.00		
				TEMPLATES (PPage)	89.50		

We now carry the full GENUINE Commodore Amiga hardware range
 FREE POSTAGE of software anywhere in Australia
 FREE PRICELISTS
 FRIENDLY, KNOWLEDGABLE STAFF
 HUGE RANGE OF PRODUCTS for AMIGA, C64/128 and IBM PC
 STD FREE 008 Order line - business hours
 COMPLETE ONE-STOP AMIGA Shop
 This months super special - DELUXE PAINT III only \$169 (normally \$249)

There's always ways to save at INTERLINK

ADVENTURE	COMING SOON	WP	GRAPHICS	UTILITIES
BOMBER DATA DISK	BOMBER DATA DISK	SBA CASH	AMAS	AMI ALIGNMT KIT
FALCON MISSION DISK#2	FALCON MISSION DISK#2	SBA PLUS	AUDIO MASTER III	A-TALK III
FLIGHT OF THE INTRUDER	HAWK	SBA EXTRA	BARS & PIPES	CLI-MATE
SPEDBALL 2	TV SPORTS BASEBALL	SECURITIES ANALST	DELUXE MUSIC CS	CROSS DOS V4.0
VETTE		SYSTEM 3	DR T'S APPRENTICE	DOCTOR AMI
		THE ACCOUNTANT	DR T'S COPY DTP	DOS LAB
		WORKS PLATINUM	DR T'S KCS 3	DOS 2 DOS
			DR T'S KCS LEVEL II	DIGITAL
			DR T'S TIGER CUB	DISK 2 DISK
			INSTANT MUSIC	DISK MECHANIC
			MASTER SOUND M.	DISK 4000
			MASTER TRACKS	DISK 5000
			MUSIC X	DISK 6000
			PERFECT SOUND	DISK 7000
			SONIX	DISK 8000
			SONIX TRACKS (ea)	DISK 9000
			SONIX PLUS 2	DISK 10000

DATA RETRIEVE	DATA REVERT	DATASTORE	DATAVIEW	DATAVIEW
DATA RET. PRO	DATA RET. PRO	DATAVIEW	DATAVIEW	DATAVIEW
DBMAN V	DBMAN V	DATAVIEW	DATAVIEW	DATAVIEW
FREE LANCE	FREE LANCE	DATAVIEW	DATAVIEW	DATAVIEW
DESIGN 3-D	DESIGN 3-D	DATAVIEW	DATAVIEW	DATAVIEW
DIGI-MATE 3	DIGI-MATE 3	DATAVIEW	DATAVIEW	DATAVIEW
DIGI-PAINT 3	DIGI-PAINT 3	DATAVIEW	DATAVIEW	DATAVIEW
DIGI-VIEW GOLD 4	DIGI-VIEW GOLD 4	DATAVIEW	DATAVIEW	DATAVIEW
DIGI-WORKS 3D	DIGI-WORKS 3D	DATAVIEW	DATAVIEW	DATAVIEW
DIRECTOR	DIRECTOR	DATAVIEW	DATAVIEW	DATAVIEW
DIRECTOR TOOLKIT	DIRECTOR TOOLKIT	DATAVIEW	DATAVIEW	DATAVIEW
ELAN PERFORMER	ELAN PERFORMER	DATAVIEW	DATAVIEW	DATAVIEW
ELAN PERFORMER 2	ELAN PERFORMER 2	DATAVIEW	DATAVIEW	DATAVIEW
EXPRESS PAINT III	EXPRESS PAINT III	DATAVIEW	DATAVIEW	DATAVIEW
FANTAVISION	FANTAVISION	DATAVIEW	DATAVIEW	DATAVIEW
FLOOR PLAN CONST.	FLOOR PLAN CONST.	DATAVIEW	DATAVIEW	DATAVIEW
HAM IT UP II	HAM IT UP II	DATAVIEW	DATAVIEW	DATAVIEW
IMAGINE	IMAGINE	DATAVIEW	DATAVIEW	DATAVIEW
INTRO CAD	INTRO CAD	DATAVIEW	DATAVIEW	DATAVIEW
INTROCAD PLUS	INTROCAD PLUS	DATAVIEW	DATAVIEW	DATAVIEW
LIGHTS,CAM,ACT	LIGHTS,CAM,ACT	DATAVIEW	DATAVIEW	DATAVIEW
MODELLER 3D	MODELLER 3D	DATAVIEW	DATAVIEW	DATAVIEW
MOVIESITTER	MOVIESITTER	DATAVIEW	DATAVIEW	DATAVIEW
PAGE FLIPPER +FX	PAGE FLIPPER +FX	DATAVIEW	DATAVIEW	DATAVIEW
PAGE RENDER 3D	PAGE RENDER 3D	DATAVIEW	DATAVIEW	DATAVIEW
PHOTON PAINT II	PHOTON PAINT II	DATAVIEW	DATAVIEW	DATAVIEW
PIX MATE	PIX MATE	DATAVIEW	DATAVIEW	DATAVIEW

EDUCATION
 We also carry a large range of education software. Please call or request our catalogue.

Your Software Warehouse

HARDWARE

CALL FOR PRICES
AMIGAS
 MONITORS
 STAR PRINTERS
 EPSON PRINTERS
 FLOPPY DRIVES
 MEMORY BOARDS
 HARD DRIVES
 ACCELERATOR BOARDS
 GVP RANGE
 GENLOCKS
 NETWORK CARDS

PC EMULATOR BOARDS
 JOYSTICKS
 MICE
 LIGHT PENS
 DRAWING TABLETS
 HAND SCANNERS
 FLATBED SCANNERS
 3D GLASSES
 DIGITISERS
 FRAME GRABBERS
 REMOVABLE HARDDISKS
 TAPE BACKUP UNITS
 SWITCH BOXES
 MIDI BOXES
 CABLES

FOR ALL ORDERS
 OF **AMIGA**
 SOFTWARE OVER
 \$50 YOU WILL
 RECEIVE
 VOUCHERS
 THAT ALLOW
 YOU TO GET
 FREE
AMIGA
 SOFTWARE

C64/128

GAMES

BARBARIAN II	39.00
BARD'S TALE (ea)	29.50
BATMAN MOVIE	39.00
BATTLE CHESS	44.00
BEVERLY HILLS COP	39.00
CABAL	35.00
CHAMPS OF KRYNN	49.50
CHASE H.Q.	35.00
CIRCUS ATTRACT.	39.00
CROSSBOW	49.00
CURSE AZURE BONDS 34.50	
CYBERBALL	39.50
DOUBLE DRAGON II	39.00
E MOTION	39.50
ELVIRA	39.50
EYE OF HORUS	39.00
F14 TOMCAT	44.00
F15 STRIKE EAGLE	39.00
F16 COMBAT PILOT	39.00
FLIMBO'S QUEST	35.50
G. NORMAN GOLF	49.00
HARD DRIVIN'	39.00
HILLSFAR	34.50
HOT ROD	35.50
IRON LORD	49.00
J. NICKLAUS GOLF	35.00
LAST NINJA II	35.00
LEONARDO	39.00
MIGHT & MAGIC	39.50
MIGHT & MAGIC II	39.50
MONOPOLY	39.00
NINJA SPIRIT	39.50
NY STORY	35.00
OP. THUND'BOLT	35.00
PIPE MANIA	39.50
POOLS OF RADIANCE	45.50
RAINBOW ISLANDS	39.50
REACH FOR STARS	49.00
SECRET OF THE	
SILVER BLADES	34.50

SKI OR DIE
 STARLORD
 STREET ROD
 TEST DRIVE II
 TURRICAN
 TV SP. FOOTY
 WALL STREET
 X OUT

PRODUCTIVITY

ACTION REPLAY VI	139.00
BASIC COMPLIER 64	69.00
COBOL 64	59.00
FINAL CART III	129.00
FONTMASTER 64	79.00
GEOCALC 64	39.50
GEOCHART	39.50
GEOFILE 64	39.50
GEOPROGRAMMER	39.50
GEOPUBLISH	49.50
GEOS 64	59.50
GEOS 128	69.50
GEOS INT'L FONTS	39.50
INSTANT MUSIC	35.00
MINI OFFICE II	44.00
MUSIC CONST. SET	29.50
NEWSMAKER 128	59.00
PAPERCLIP III	99.50
PAPERCLIP PUB	54.00
POCKET SERIES (ea)	69.00
PRINTMASTER +	59.00
SUPER PASCAL 64	99.00
SUPER C 64	99.00
SUPERBASE 64	59.00
SUPERSCRIPT 64	59.00
SWIFTCALC	36.00
THE PRINT SHOP	74.00
VIDEO BASIC 64	59.00

AMIGA
 With over 1400 titles
 currently available it is
 impossible to list them
 all. If you want
 something you can't
 see then please ring.
 We aim to be your
 Number 1 choice, by
 being the No. 1
 quality **AMIGA**
 dealer in Australia.

C64/128

We carry an extensive
 range and stock for this
 "everlasting" computer.
 Phone or write for your
 free C64/128 catalogue
 listing over 900 software
 items, as well as
 accessories.

IBM PC

We have over 1000
 games and educational
 software products for
 your computer. Check
 out our free catalogue.

All prices and availability
 are subject to change
 without notice. Some items
 listed may not have arrived
 by press time. All software
 items are shipped surface
 mail within Australia
FREE. All other items are
 subject to a delivery charge.

WE WILL MATCH ANY ADVERTISED SOFTWARE PRICE IN THIS MAGAZINE

(SPECIALS EXCEPTED - REMEMBER ALSO THAT WE DON'T CHARGE FREIGHT)

ACCESSORIES

DISK BOXES

3.5" 80	19.00
3.5" 120	22.00
BANX 80	25.00
5.25" 100	18.00
5.25" 140	25.00

BOOKS

Over 100 titles for the **AMIGA**
 and the **C64/128**, including the
 complete ABACUS range for
 the **AMIGA**.

RIBBONS

We carry all popular dot
 matrix printer ribbons.

With **EVERY** order
 we'll give you our
FREE PriceList. For
 the **AMIGA** we have
 a special PriceList, a
 16-page Magazine
 full of reviews,
 articles and general
 snippets of interest.
 We think it's great
 reading, and it's
FREE.

Your Software Warehouse!

ORDER FORM

Product Name	Computer	Price	Qty
Name			
Address			
Daytime Phone ()			
Cheque <input type="checkbox"/> Money Order <input type="checkbox"/> Visa <input type="checkbox"/> Bankcard <input type="checkbox"/> Mastercard <input type="checkbox"/>			
Full Card No	<input type="text"/>	<input type="text"/>	<input type="text"/>
Expiry Date			
Signature			



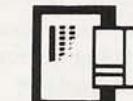
STD FREE ORDER LINE

008 020 633

(Orders Only - Business Hours Only)

24 HOUR ORDERING LINE
 (Answering Machine After Hours)
(06) 293-2233

All Queries (06) 293-2233



FAX (06) 293-1438



Fill out the order form (or write on
 any piece of paper) and send to -
 P.O. Box 1155
 Tuggeranong ACT 2900

INTERLINK
SOFTWARE PTY.
 LTD.



UNIT 2, 216 COWLISSHAW STREET,
 TUGGERANONG TOWN CENTRE

switch setting for page length.

Multitasking processes

Firstly, what is multi-tasking? Simply put, it is the apparent ability of a single CPU (in our case the 6510) to run more than one program at once. What is in fact happening, is that at any given moment, the CPU is only running one program, but because this happens so quickly, and most CPU programs are I/O bound (that is waiting for slower I/O devices), the CPU can be made to switch from one program to another quite separate and distinct one and run it for a while. Then jump back to the first one and so on. *Geos* provides the basic facilities needed to allow this 'task switching' to take place.

When we think of a program, we think of a related set of instructions of program code deliberately strung together so as to produce the desired program function. When that program runs, it is referred to by *Geos* as a process. Without *Geos*, to write another quite separate program that ran on the same machine at the same time as the first one would certainly be possible, but be quite complicated to ensure no conflicts, and quite hard to debug. All that changes with *Geos* behind you.

Most processes will either be time based or event based. For example a wordprocessor waits for a keyboard event (user typing), processes it by printing it or taking some control action, and waits again for another keyboard event. A background time-based process example might be one that wakes up regularly to check the X & Y position of the mouse, and change the cursor picture to the relevant context when it is over a certain part of the screen.

In both cases, if you were writing a more traditional style program, you would have to implement both the time delay code, and set up the loops yourself. With *Geos*, you simply write some straight line code to DO whatever action is required when the event or time condition has been reached and then RTS (return). *Geos* takes care of detecting the event, looping, working out time delays and so on. This greatly simplifies coding responsibility and difficulty. You have more time to sort out the issues involved in actually doing the processing itself.

The base processes under *Geos* are thus basically subroutines than run every so many interrupts (ideally). The *Geos* kernel decrements the process time delay

registers, and when they timeout it dispatches the service subroutine code. So your application basically has to provide service routines, and time data in the 'process definition table'.

Processes are firstly initialised, where a timer and flag byte are assigned. The process data are given in a simple table format as follows:

```
ProcessDefTab:  
.word ServiceRoutineA ; address of routine code  
.word N      ; time delay in interrupts  
                (50 per sec)  
.word ServiceRoutineB ; address of routine code  
.word N      ; time delay in interrupts  
                (50 per sec)
```

Processes are initialised by calling doing a JSR to the Kernal routine InitProcesses, passing the address of the ProcessDefTab, and number of processes. This does not actually activate the process. This is done by RestartProcess, which unblocks or unfreezes a process by resetting its timer, removing any flags preventing it from running, and allows the Kernal to manage the process in the normal way.

A process can be blocked with BlockProcess or unblocked with UnblockProcess. This prevents the service routine being called, although timers still decrement. A similar action is FreezeProcess and UnfreezeProcess, which actually prevent process timers from being decremented, thus preventing them being dispatched.

This is also a facility to allow processes to put themselves to sleep for a specified period. Using Sleep should be done with care. I recommend steering clear of it unless you really know what to do. The effect can be achieved in other ways.

As you've probably already gathered, a process can either be runnable (ie: executing currently or awaiting a timeout), blocked or frozen. The difference between frozen and blocked is a bit marginal, and which method you might use depends on your application. Some flexibility exists.

There are some interesting issues that occur when multi-tasking programming. How, for example, do you get both programs to talk to each other if needed? For example, one program might be reading an input stream from somewhere, and another might be using that data. Inter-task communications can be achieved by us-

ing defined memory buffer exchange areas. One other thing is needed for correct inter-task communications - a protocol. This is best achieved as follows.

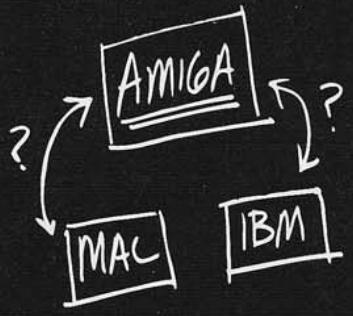
One task should always generate messages, and the other should always be a receiver (producer/consumer). Some flag bits should be organised to allow access permission to write to the buffer, and access permission to read from the buffer. Let's assume task A is sending to task B and says: can I write to the buffer yet? (ie is write permission reset). If not, block oneself. Task B goes to read the message buffer by checking if the read permission is reset. It will only be reset by the writing task. Task B sets the read permission, resets the write permission flag and unblocks task A. Task A writes to the buffer and resets the read permission, sets the write permission, and attempts to unblock A.

The beauty of multiple processes is the ability to divide up your programming problem into lots of little simpler ones. Implement the code for each item by itself, and allow the operating system (*Geos*) to glue all the modules together.

Some examples of programs with multiple tasks might be: games where one task scrolls a background, whilst another moves the spaceship, whilst another keeps the score. Or a home monitoring system where one gets some data from the user port, another displays it on a screen, and another handles user requests. The possibilities are endless. Most of the *Geos* applications employ multitasking to varying degrees to achieve their functionality.

If you have any questions about *Geos*, whether they be technical or otherwise, that you want answered please write to me care of this magazine (please do not telephone), and I will answer them for you.

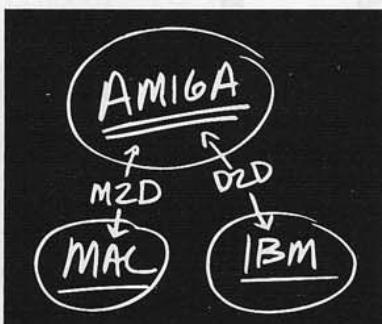
Well, bye for now. Next time we will be discussing the *Geos* filing system, especially with regards to variable length indexed record files, a cross between CBM relative files and SEQ files. □



PROBLEM

Your boss wants you to produce an animated video presentation to help sell that new project to top management. You know that a full-color, animated presentation, developed on the Amiga, using its powerful desktop video software, will make a convincing impact.

The Amiga is the right machine for the job, but how can you easily import the images and data you need for your presentation from other divisions of the company, data and images which come from Macintoshes and IBM PCs?



SOLUTION

File transfer programs MAC-2-DOS and DOS-2-DOS from Central Coast Software! Using these simple and easy-to-use Amiga programs, you can now quickly and easily transfer the Mac/IBM/Atari data and images you need to and from the Amiga. **MAC-2-DOS** connects a Mac floppy drive directly to the Amiga • Reads and writes 400K/800K Mac disks • Converts MacPaint images to/from IFF • Imports Mac clip art for use on the Amiga • Converts ASCII text files both ways • Converts PostScript files both ways • Supports MacBinary format • Includes

conversion utilities for PICT files and Mac fonts • Creates icons, as necessary • Formats 400K/800K Mac disks.

DOS-2-DOS uses your Amiga's floppy drives to read/write IBM/Atari 3.5-inch disks • Reads/writes 5.25-inch IBM disks (using an external 5.25-inch Amiga drive) • Converts ASCII text files both ways • Supports international character sets • Formats IBM/Atari disks • Use with IBM program HIJAAK (from Inset Systems, not included) to capture/convert IBM graphic images to/from IFF.



**Central
Coast
Software**

MAC-2-DOS — when it absolutely, positively has to get to or from a Mac disk, immediately.

DOS-2-DOS — when it absolutely, positively has to get to or from an IBM PC (or Atari) disk, immediately.

And to preserve your entire presentation, all supporting data and graphic files, as well as the programs:

QUARTERBACK — the fastest and most reliable Amiga hard-disk backup program!

Distributed and Supported in Australia by:
COMPUTERMATE
products (australia) pty. ltd.

P.O. Box C64, Mt. Kuring-Gai, N.S.W. 2080
Phone: (02) 457 8388 Fax: (02) 457 8739
Technical Support: (02) 457 8548

Use QUARTERBACK to save your Data.

Use QUARTERBACK TOOLS to save your A**!

Have you ever deleted the wrong file (or worse yet, ALL your files) with a slip of the finger?

Have you seen this awful message: "Error validating DHO"?

Then you need **QUARTERBACK TOOLS**, the *fastest* and *easiest* way to recover your lost files on any AmigaDOS volume.

QUARTERBACK TOOLS also optimizes the speed and reliability of your Amiga hard disks and floppy disks by:

- Repositioning your files to optimum locations on the disk, eliminating file fragmentation, and consolidating disk free space.
- Searching the entire disk for errors and marking bad areas "out of service."
- Curing validation problems; finding and fixing corrupted directories.

QUARTERBACK TOOLS runs on any Amiga using either the old or new filing systems, and runs with new and old Workbench versions.

QUARTERBACK TOOLS... now *this is no donkey!*

And to close the barn door *before* the horse escapes, use **QUARTERBACK** the *fastest* and *easiest* hard disk backup program for the Amiga.

Other useful products from Central Coast Software:

Mac-2-Dos for transferring Macintosh files to and from the Amiga.

Dos-2-Dos for transferring MS-DOS/Atari files to and from the Amiga.

Distributed and Supported in Australia by:



Central Coast Software

P.O. Box C64, Mt. Kuring-Gai, N.S.W. 2080
Phone: (02) 457 8388 Fax: (02) 457 8739
Technical Support: (02) 457 8548

C64 Sound and Graphics - Working with User Defined Characters

Last month Greg showed us how to define our own custom characters. Now we take a look at how to put them to work!

Once you have created a new set of characters, there are two ways of saving them for later use. The first is to add the corresponding DATA statements to whatever program you are using, and the second is to save them directly to tape or disk and load them back into the same place in RAM when they are next required.

Program: DATA MAKER

This program will read any area of RAM memory and convert the contents into a series of DATA statements. It may be used for character data, sprite data, or to convert machine code programs to DATA statements.

```

10 REM (C) GREG PERRY, BRISBANE 1984
100 REM DATA MAKER
110 REM CONVERTS ANY AREA OF RAM
TO
120 REM DATA STATEMENTS
130 INPUT "[CLR]START[SPACE]ADDRESS"
[SPACE]IN[SPACE]DECIMAL";AD
140 INPUT "END[SPACE]ADDRESS[SPACE]"
IN[SPACE]DECIMAL";EA
150 INPUT "DATA[SPACE]START[SPACE]"
LINE[SPACE]NO";S
160 PRINT "[DOWN4]"
170 POKE 820,AD-INT (AD/256)*256: POKE
821, INT (AD/256)
175 POKE 822,EA-INT (EA/256)*256: POKE
823, INT (EA/256)
180 GOTO 240
190 S=PEEK (252)*256+ PEEK (251)
200 AD=PEEK (820)+ PEEK (821)*256
210 EA=PEEK (822)+ PEEK (823)*256
220 IF AD>EA THEN PRINT "
[DOWN5,SPACE]FINISHED": END
230 PRINT "[UP,SPACE38]"
240 PRINT S;"DATA[SPACE]";
250 FOR AD=AD TO AD+4
260 IF AD>EA THEN 280
270 PRINT PEEK (AD);"[LEFT,";
280 NEXT : PRINT "[LEFT,SPACE]"
290 POKE 820,AD-INT (AD/256)*256: POKE
821, INT (AD/256)

```

```

300 PRINT "GOTO190[UP3]";
310 POKE 198,2: POKE 631,13: POKE
632,13
320 S=S+10
330 POKE 252, INT (S/256)
340 POKE 251,S- INT (S/256)*256: END

```

Character Saving and Loading

To perform the second option of saving the character data directly to tape or disk is relatively simple. When the command SAVE is used, it normally dumps out to the disk or tape the area of RAM containing the BASIC program.

The pointers to this area are:
43 and 44 Start of BASIC RAM
45 and 46 End of program/start of variables.

To save another RAM area to tape or disk, we must temporarily change these

pointers to define the new area, SAVE the contents, then reset the pointers to normal.

For example, the modified character set we created above starts at 12288 and extends to 13312. Use the following method to save this area of memory to disk.

First, CLEAR the screen. (Use RUN/STOP RESTORE.)

Find the end of the current program with

X=PEEK(45): Y=PEEK(46): PRINT X,Y
Set variables to the start and end of the

RAM to be saved by

A=12288:B=13312

reset start address:

POKE 43, A - INT(A/256): POKE 44,
INT(A/256)

reset end address

POKE 45, B - INT(B/256): POKE 46, INT
(B/256)

then save character set to disk with

SAVE"CHAR SET",8

(use SAVE"CHAR SET",1 for tape)

and when finished, reset the pointers by

POKE 43,1: POKE 44,8

POKE 45,X: POKE 46,Y

CLR

Big news for C64 owners

A tremendous variety of Public Domain programs for the C64 and C128. Games, Educational, Music, Utilities, Graphics and Demos.

Examples: (on 16 disk sides) \$32 posted

Gamepak 1 - 157 games

Gamepak 2 - 153 games

Edupak 1 - 267 Educational programs

Edupak 2 - 360 Educational programs

That's real value!

*Libraries of disks available for Amiga.
IBM and Compatibles and Apple II.*

Send for details to:

Allan Crouch

29 Happ St, Auburn NSW 2144

Phone : 649 4904

**ROSENEATH
COMPUTERS P/L**
**Freepost 6, P.O Box 506
Engadine 2233. Ph: 520-2933**

Now Available, the Winter Catalogue-on-a-disk for the Amiga with over 1,000 items for the Amiga including Modems, Monitors, Hard Drives & Software. Send \$3.00 for the Disk or get it free with any order over \$50.00. The Disk can be updated for free anytime.

We accept payment by Bankcard, Mastercard & Amex.

This could easily be made into a small program.

When you wish to reuse an old character set, it can be loaded from disk into RAM simply by:

```
LOAD"CHAR SET",8,1
(use LOAD"CHAR SET",1,1 for tape)
Within a program use the following lines:
100 C=0
110 C=C+1: IF C=1 THEN LOAD"CHAR
SET",8,1
```

Here, the C is a counter to ensure that the program does not get into a continuous loop loading the character set. When a LOAD command is used within a program, after the load is completed the operating system goes to the first line of the program and starts again, effectively a GOTO first line.

Use of the ",1" at the end of the LOAD statement tells the C64 not to "relocate" the following data into the normal BASIC area from 2048 upwards, but to load it into the area of RAM from where it originated.

The last step is to change the VIC II character pointer as above (POKE 53272, 29) to use the newly loaded character set.

Character Memory Locations

As we saw above, the VIC II chip can access any one of four BANKS of 16K RAM for its video information, with the character pointer being set in bits 3-1 of location 53272. This pointer can be set to one of eight 2K areas within this 16K BANK. The actual memory locations of these character areas are always referenced to the first memory location of the BANK. For example, for BANK 0 this is location 0. In this manner, the character pointer acts as an "offset" pointer.

Use the following formula:

```
POKE 53272,(PEEK(53272) AND 240)
OR CB or POKE 53272,16+CB where CB,
the character base offset is
```

Start of CB Comment Usable BASIC Character set for BANK 0 program space			
0	0	NOT AVAILABLE	
2048	2	Start of program RAM	
4096	4	ROM Image	
6144	6	ROM Image	
8192	8	** usable	6144
10240	10	** usable	8192
12288	12	** usable	10240
14336	14	** usable	12288

To emphasise, without moving the

start of BASIC, only the four locations from 8192 upwards can be used in BANK 0, the normal setting.

There are further problems. In the program above, the new character set has been placed in the block of RAM from 12288 to 13312 using CB = 12. The problem is that the BASIC RAM (where the program and variable data are stored) can use part or all of the RAM from 2048-40959. This means that sooner or later, as you use larger programs, the program will overwrite the character pattern. The same problems will arise when using high resolution graphics.

There are four effective ways around this problem:

1. Only use small programs. (Poor but easy solution.)
2. Protect the character set from being overwritten. (Fair, but this limits the amount of BASIC space as above.)
3. Move the area of RAM used by BASIC. (Good.)
4. Change BANKS and move the character set (and the screen RAM) to another area of RAM which is not used by BASIC. (This is the best solution but is also more involved.)

Changing BANKS is a complicated operation and will be discussed later chapters, so let's examine the other three options in more detail.

If you use the highest character location of 14336 (CB = 14), this leaves the area 2048-14337 (equal to 12K) for BASIC programs and variables. With small programs you will probably be able to initially survive with space, but the character set should really be protected from BASIC. This is done by setting the highest BASIC RAM address pointers in locations 55 and 56. These are normally set to 0 and 160 respectively.

To limit BASIC RAM to 12K:

```
POKE 55,0: POKE 56,56: CLR
```

Now a check of the free memory space with PRINT FRE(0) shows 12285 bytes free. Other values can be set in a similar manner.

To reset end of memory to normal (39K)

```
POKE 55,0: POKE 56,160: CLR
```

Option 3 above is the best and easiest general-purpose method. The start of BASIC RAM pointers are in locations 43 and 44. (Normally 1 and 8, pointing to loca-

tion 2049.)

From the table, you can see that, provided BASIC program RAM is moved, we could put the character set at 2048-4095, using a value for CB = 2. This is the lowest available location which may be used, since, because of the ROM "images", the next available location would be 8192. In order to use 2048 upwards for the character set, BASIC program RAM must be moved up in memory to 4096. The ROM "images" do not affect BASIC programs.

To relocate BASIC RAM to 4096-40959

```
POKE 43,1: POKE 44,16: POKE 16*256,0: NEW
```

A general formula using the above table as a guide and CB equal start of BASIC pointer is:

```
POKE 43,1: POKE 44,CB*4: POKE
CB*4*256,0: NEW
```

You must POKE the bottom location (here 16*256) to 0 before the NEW command or a SYNTAX ERROR will be generated.

Check FRE(0) to see how much RAM is available. We still have 36K left for program and variables.

If used, these POKEs must be done before entering a program either from the keyboard or disk/tape. Most programs will now load directly into this new RAM area. (A similar method may be developed for disk users to LOAD the directory (LOAD"\$",8) into upper memory without overwriting the current program.)

Any programs which use only BASIC will work correctly in both this reduced memory format as well as in the normal format.

To reset start of BASIC RAM to the normal 39K format:

```
POKE 43,1: POKE 44,8: POKE 2048,0:
NEW
```

If you wish to make extensive use of programmable characters, find a good character editor program. For example, one of the public domain Commodore Character Editors eliminates all the hard work of the calculations and allows you to edit up to five different character sets on the screen and save each set to disk for use in your own programs.

Great bargains for your C64/128!

Australian Commodore Review
Disk Mags Nos 1 to 14

Disk Magazine One	\$10
Forest Raiders - shoot 'em up. Machine code paint, border, input and flash routines. Nice Lister. Recover It. And more.	
Disk Magazine Two	\$10
Programs demonstrating 3D graphic plots. Terminal program. Tutorial on bits and bytes. Character editor. And more.	
Disk Magazine Three	\$10
Hangman, Labyrinth, Calendar, Finance, Typing Practice, Roadblock, Bird Invaders. Constructabrix - education.	
Disk Magazine Four	\$10
Graphic Workshop - complete design system - with tutorials. Typing Tutor. Directrix - disk filing. Plurals and maths.	
Disk Magazine Five	\$10
Utilities for using Newsroom on an MPS 802 plus writing signs, printing Doodle and Printshop pictures. Centronics driver.	
Disk Magazine Six	\$12
Games: Bert the Bug, Hangman. Demos: Space Harrier, Max Headroom, etc. Home Inventory. Graphics. Utilities. And more	
Disk Magazine Seven	\$12
Anti-Isepic, Sledgehammer, Fast Format, Renumber, etc. For 128: Bootmaker 128/64 Utility, Convert Basics utility.	
Disk Magazine Eight	\$12
Track and Sector, Function Keys, Unscratched, Relocatable directory. Calendars, Chequewriter. ESCOS version 2.99.	
Disk Magazine Nine	\$12
C64: 14 graphics and music demos, Little Invader, Sprite Clock, Sprites in the Border, games, utilities and graphics. C128: 128 Disk Filer, 128 Block Reader, Three music programs.	
Disk Magazine Ten	\$12.95
Cup challenge - sailing simulation. Define your function keys. Compiled Appointment Manager. Escos with Music. Othello Look-alike. And more.	
Disk Magazine Eleven	\$12.95
80 Characters, Graphic Converter, Batch line number deleter, Function key definition, System call locator. Fix directory, Text search, Disk tidy, Drive aligner. Geos printer drivers. More.	
Disk Magazine Twelve	\$12.95
Appointment Manager 2.1. Third Term - comms program. Panes - windowing system. Atlantis - undersea fast action shoot-em-up. Circle Navigation, Education Programs, Music.	
Disk Magazine Thirteen	\$12.95
Charles and Stowaway - adventures. Blackjack. Graphic Converter. Disk Diskassy - Disk utility. Disk Label Maker, Icon Changer. Easy DOS. Cruncher BASIC. Calc. Font Diskassy.	
Disk Magazine Fourteen	\$12.95
Electronic CAD Package. Software Cataloguer. Character Thief. Pointer C64. Best single disk file copier. Never ending scroll. SEQ file readert. CompuPage - game.	
To: Australian Commodore Review, 21 Darley Rd, Randwick, NSW 2031. (02) 398 5111.	
Please send me Disk Magazine(s) No(s):	
I enclose Cheque / Bankcard / MoneyOrder	
Bankcard No:.....	
Expiry Date.....	
Signature.....	
Name (print).....	
Address.....	
Postcode.....	
Please add \$2 for post and packing	

More Amazing Software... *at a price you can afford.*

From
the editors of
the Australian
Amiga Review

Amiga-Live! issue four.

Three disks of hand picked public domain software, graphics and demonstrations.

Now you can collect quality software cheaply, quickly, from people whose judgement you can trust.

Features Of Issue Four

Funpaint - A powerful program for the price! Works in almost all Amiga graphics resolutions including HAM and extra-half-brite. Basic drawing functions.

ImageLab - Full image processing capabilities from simple averaging to Fast Fourier Transformations. Extensive documentation on disk. Works in many resolutions - fantastic effects possible.

FixDisk - Restore lost files, recover damaged disks and undo a lot of common DOS problems.

Gymnist ray traced animation - with sound effects.

Entertainment - Pacman game, Mirror Wars, BallyIII, Emporos and JAR.

PHONE (02) 879-7455

TOLL FREE (008) 25 2879

Credit Card and C.O.D. accepted over the phone.

ORDER FORM

Send cheque or money order made out to Prime Artifax, or use your credit card.

Name: Day Phone:
Address:
Post Code: Credit Card (tick) VISA M/C B/C
Card Number: Exp:

Please rush me issue four of Amiga-Live! I understand I will receive three disks within 7 working days of receipt of this order. Signature:

POST TO: Prime Artifax, P.O Box 288, Gladesville 2111

The Mega Entertainment Section

Edited by Phil Campbell

That's Entertainment

All the latest news and views from the world of entertainment ...

Computer art in Kempsey Art Show

There's nothing more entertaining than having a quiet doodle with *Deluxe Paint III* - and now you've got the chance to show off your talents. Two sections featuring computer art have been included in the 1990 Kempsey Shire Art Prize exhibition, alongside more traditional mediums. Professional computer artist Graham Whittle will judge the exhibition, which will be open to the public between October 9th and 12th in the Civic Centre, West Kempsey. A prize of \$300 is being offered in the Open Section, with council acquiring the winning work for its community art collection. School students are being encouraged to participate in a special section with awards of \$75 and \$25 for first and second prizes respectively.

Entry forms and information may be obtained from The Art Secretary, Kempsey Shire Council, PO Box 78, West Kempsey 2440. For further information, contact Meg Pamplin on (065) 626077.

Mandscape Tennis Competition Winners

Boy, what a response to our last competition! Seems like everyone wants to play tennis, especially Mandscape's *International 3-d Tennis*! To all those wishful thinkers who thought we'd be silly enough to accept efforts like "E.T." for "Extra-Terrestrial" and "N.E." for North East, think again!

After much head scratching and sifting of entries, these are the winners chosen by our celebrity judge (the Editor's wife):

Congratulations to Val Hutchison of 11 Dunrobin St Shepparton, Vic 3630, who managed to produce 41 words, all of which are confirmed by the Chambers 20th Century Dictionary. An Amiga version of *International 3-D Tennis* is on the way.

Mandy Bailey of 30 Luckhurst Drive Mandurah WA 6210 is in second place with 38 words, and David Jordan of 5 Murrami Ace Caringbah NSW 2229 is in third place with 37. Watch your mailboxes for Amiga versions of *International 3-D Tennis* too, courtesy of the generous folks at *Mandscape*.

Tom's Top Ten

Tom Quealy tells us what's hot and what's not, with this month's sales charts direct from the Computer Spot's on-line statistics ...

AMIGA

1. TMNT
2. Kickoff 2
3. Midwinter
4. F-29 Retaliator
5. AMOS
6. Pro Tennis Tour
7. Leisure Suit Larry 3
8. Fighter Bomber
9. Sherman M4
10. Shadow of the Beast



COMMODORE 64

1. Pro Tennis Tour
2. Chase HQ
3. Fun School Education
4. World Cup Compilation
5. Arcade Champions
6. Ghouls 'n' Ghosts
7. F-14 Tomcat
8. F-18 Hornet
9. Project Stealth Fighter
10. TV Sports Football

Hints and Tips

Keep those hints and tips rolling in folks! Send them to Phil Campbell, PO Box 23 Maclean NSW 2463. Please don't send game maps! At present we've got no way of printing them!

Amiga

Dragons Lair II

- Escape from Singe's Castle

A special treat for fans of *Dragon's Lair II*! Here's the first instalment of Juris Graney's solution to the game:

Scene 1 - The Tilt.

Dirk the Daring will start to walk forward. Then the side panels will start to fall away from his feet. Go back, when he lands, go Forward, then before he lands go forward again. If the room at the start was titled left go left and if it was tilted right go right.

Scene 2 - The Horse.

Dirk the Daring will start walking towards a mechanical horse. When he gets on the horse will take off. If the walls are glowing on the right go left and if the wall is glowing on the left go right. This will happen at least three times. Then the horse will start to fall.

If the horse is on the left side of the screen go right and if the horse is on the right side of the screen go left.

Scene 3 - The Ropes.

If Dirk enters from the left side of the screen go left when he says "Oh Oh". Then the screen will change to a close up of him. Push up and left. Do this several times and always remember to push up or he will fall.

Scene 4 - Smithee.

Dirk will be standing there and there will be a sword on his left or right. Push the button when the sword starts to rise and press it again when the sword is about to attack you.

Scene 5 - The Anvil.

This screen will happen in the same sequence as the Smithee. If the glowing anvil is on the right side of the screen go right and if it is on the left side of the screen go left. Dirk will run up and jump on an anvil and scamper up to the next screen.

Thanks Juris ... watch out for more next month!

Sim City

Matthew Mantle of Gladstone, Qld, sent this top tip for my favourite game. If



ONLY COMMODORE AMIGA MAKES ALL THIS POSSIBLE.

When you first see a Commodore Amiga you'll be amazed at how much it can do.

After you've seen its capabilities you won't be surprised that over a million Commodore Amigas have been sold worldwide.

That's because Commodore Amiga is the world's most advanced home and small business computer. It is also the leader in specialised applications such as Desktop Publishing, video graphic design and music.

It talks, animates, educates. Whether you're nine or ninety, student or teacher, Commodore Amiga has the software to aid learning. As well as these applications, it offers a wealth of enter-

tainment with the latest hi-tech video games.

The potential of the Commodore Amiga doesn't stop there. Commodore Amiga has thousands of software packages available as well as a huge range of supporting magazines.

The Commodore Amiga 500 and 2000 make so much possible you're limited only by your imagination.

For further information and your nearest Commodore dealer phone (008) 023 233.

Commodore

JSA COM 0406

Entertainment

you need funds and things are tight, simply hold down the shift key and type FUND to receive \$10,000. But be warned! If you type this too many times in a row, there'll be an earthquake.

The Untouchables

Also from Matthew Mantle comes the following. Type "SOUTHAMPTON GAZETTE" on the title screen. Now press F-10 on the startup screen of each level to go on to the next.

Commodore 64

Giana Sisters

Press NRMA to skip through the stages of the game - if the trigger on the joystick is pressed at the same time, the stages only take one second each to go by.

Chase HQ

Cartridge owners only! "The Iceman" advises that if you haven't yet got a cartridge with a "freeze/restart" facility then you've got rocks in your head. He uses a Power Cartridge, which cost less than \$50, and he reckons "it will still be in use even after most games are forgotten."

After all that, get your cartridge, freeze Chase HQ and POKE 36702,44 for infinite turbos for your Porsche.

Rygar

Likewise for Cartridge owners, freeze Rygar and POKE 3819,169:POKE 3820,0:POKE3821,234 to disable sprite collisions and tour all 17 levels.

Ghouls 'n' Ghosts Map

Adam Lee has gone to a great deal of trouble to produce a wall chart sized map for *Ghouls 'n' Ghosts*. It's a brilliant piece of work. Sadly, we can't print it - for one thing, it's in pencil, which is difficult to reproduce. For another thing it's about 10 feet long.

Help Wanted!

More and more gamers are writing to ask for help. If you can offer and advice, hints, pokes or code words to the following gamers, please let us know.

Yokeching Chan, from Sydney NSW, is looking for cheat modes for the Amiga versions of *R-type*, *Rolling Thunder*, *Xenon*, and *Arkanoid - Revenge of Doh*.

Also, the *Double Dragon* cheat (typing r u calling my pint a poff! on the title screen) doesn't seem to work. Any idea's?

Jan Taylor from Pooraka, SA, is also looking for help with *Arkanoid II*.

Tony Egorov of Holland Park Qld has found to his dismay that Phil Nichol's Shadow of the Beast hint in June ACAR doesn't work.

Tony is a desperate man. If you can help him, write to him direct at 62 Victor St, Holland Park 4121, Qld.

Amos Burbidge of Hackham West, SA is looking for a cheat for *Xenon II*.

Adam Lee, who mapped level 1 and 2 of *Ghouls 'n' Ghosts*, can't get through level 3. If you can help him with cheat or Poke for the C-64 disk version, write to him at 81 Northcote Tce, Medindie 5081 SA.

Letters to the Editor



Address your entertainment letters to Phil Campbell, PO Box 23 Maclean NSW 2463. You can also fax your letters, hints and high scores to me on 066-452060. but please, please, please don't send letters about printers and other boring stuff! they belong in the other end of the magazine ... the end you read last!

Dear Phil,

I was quite surprised and amused to find my first name splashed numerous times across page 21 in the large advertisement for the AMOS program, and mentioned here and there throughout the July issue of your magazine. It produced a good laugh when I showed it to my friends at school. I've included some cheat modes and high scores - I hope you can use some of them. A great mag as well guys - one whinge though, how about a few more colour pics for your game reviews.

Amos Burbidge,
Hackham West, SA

Ed: Sorry we didn't ask permission to use your name. It's no laughing matter really - maybe you should sue somebody for breach of copyright. On the other hand, I guess it's a bit of an honour that they named the best game authoring system in the world after you. I just can't figure out why they didn't call it PHIL or something a bit more tasteful. Anyhow, Amos, we're using as much colour as we can at the moment - hope you've noticed the improvement over the last few months in response to letters just like yours.

Dear Phil,

Here's my high score for CRAZY CARS - 67,252,310. I hope this makes the Amiga Hall of Fame, because it took me ages to get it. Your section is the best.

Jason Pearson,
Streaky Bay SA

Ed: Only 67,252,310? No way. Back to the drawing board Jason, but thanks for mentioning this section is the best. Otherwise I wouldn't have printed your letter!!

Dear Phil,

I want to say you've got an excellent magazine here. It's got everything that a computer owner needs.

David McLeish,
Penshurst NSW

Ed: You want to say we've got an excellent magazine? Go right ahead. Say it.

Dear Phil,

I am writing to ask for your opinion of the C-64 emulator for the Amiga 500. Is it worth the price? Will it allow all C64 programs such as *Pools of Radiance* and *Curse of the Azure Bonds* to be played on the Amiga? Will I need a 64 disk drive or any other piece of hardware?

David Fraser,
Casula NSW.

Ed: It's been a while since I've investigated C-64 emulators, and things may have improved lately. The fact is, though, that most emulators just can't handle the pace with most sprite based C-64 games. Text applications are OK, though even then speed is a bit of a problem. You will definitely need a C-64 disk drive - how else will you load your C-64 disks? Well, maybe you could fold them and stick them into the Amiga slot, but I suspect that wouldn't work. Games like *Pools of Radiance* and *Curse of the Azure Bonds* would have a better than average chance of working OK, because like all RPGs they don't rely totally on arcade style action. As to whether an emulator is worth the money, it's up to you. If you haven't already got a 1541 drive, I seriously doubt it.

Dear Phil,

Congratulations on a fine entertainment section. I am in fact writing to warn readers of a potential danger in the computing world. In January I picked up a copy of your competitor "Megazone" (which I now regret) and decided on the spur of the moment to send away for a subscription. My cheque for \$39.50 was cashed some days later. Approximately three months on, I had received nothing, so wrote a letter questioning the whereabouts of my first issue. Weeks later -

nothing. By then the second issue was in the newsstands, and it hasn't come either.

With ACAR I have received nothing but prompt attention to anything I send in. If a magazine such as yours can be run so well, why can't the others? I hope this will serve as a warning to others ...

yours sincerely,
Keir Sooby,
Darlington WA

Ed: Phew! Let me point out that letters to the editor do not necessarily reflect the views of the management of this magazine. Naturally, we think Megazone is just wonderful. But we certainly appreciate your kind words about ACAR, and we'll do our best to keep up the good work.

Dear Sirs,

It had to happen. My brand new Amiga 2500 has a glitch that I can't seem to overcome. It already had the hard disk formatted when I got this beautiful piece of hardware, it even autoboots. Great, but annoyingly I can't run some games - specifically Strip Poker II, Operation Wolf, Thunderbirds, Captain Blood, Arkanoid and Xenon I. These games require that they be booted and not run from Workbench or CLI. I've tried renaming my s and c directories to see if I can force the 2500 to boot from DF0: but no go. Can you suggest something I could try, something not too traumatic as I don't want a major exercise every time I'm in the mood for a game. Yours faithfully,

Warwick Alderton,
Mooroopna, Vic

Ed: Your letter had rather a bloodcurdling effect - it arrived just as I was taking my own brand new 2500 out of its box for the very first time. And the bad news is that some games just won't run on the 2500. Even so, the problem you described shouldn't occur - the 2500 should boot from any disk in df0: before it even looks at the hard disk. Maybe a virus has overwritten your boot-blocks? Try some other bootable disks - they should certainly prove whether your system is working as normal. Here's another suggestion. Some games won't work with the new 68020 board - as you probably know, you can force the machine into 68000 mode by holding down both mouse buttons while you reboot. You'll need all your fingers and a couple of toes to carry out this complex manoeuvre. If you succeed, you'll see a menu on the screen allowing you to set 68000 mode, which should make your machine run just like a standard 2000. Sad to say, even this doesn't help with some of the games I have tested. Things will get better though - some games, like Unreal from Questor, make special mention of A2500 users in the manual. Very reassuring. Your letter has been forwarded to Megadisc too - maybe some of their high-tech readers will offer advice.

Hall of Fame

*****AMIGA*****

ARKANOID	- 976,548	Kamikaze Andy
BATTLE SQUADRON	- 99,999,999	Amos Burbidge
BLOCKOUT	- 36,455	David Marsh
BOMBJACK	- 200,680	David Thompson
BUBBLE BOBBLE	- 1,200,460	V. van der Heyden
BUGGY BOY	- 103,350	David Thompson
CHASE HQ	- 4,285,000	Matthew Mantle
CONTINENTAL CIRCUS	- 4,529,690	A. Burbidge
CRAZY CARS	- 84,006,720	Bill Horsley
CRYSTAL HAMMER	- 43,847	David Thompson
DENARIS	- 53,900	Peter Evans
DRAGON NINJA	- 204,880	Matthew Mantle
DOUBLE DRAGON	- 124,630	James Knight
GEE BEE AIR RALLY	- 307,466	Kamikaze Andy
HYBRIS	- 1,618,452	Matthew Mantle
IMPOSSIBLE MISSION	- 66,380	Diane Unwin
INDIANA JONES L.C.	- completed	Phillip Nicoll
SS	- 1,420,450	A G Smyth
KARATE KID II	- 52,000	Robert Dunn
LEATHERNECK	- 83,300	Owen Webster
MAJOR MOTION	- 50,658	Owen Webster
MENACE	- 996,481	Kamikaze Andy
MINDWALKER	- 306,214	P Schumacher
MOUSETRAP	- 64,817	Matthew Mantle
OPERATION WOLF	- 344,800	John Boyle
OUTRUN	- 11,102,200	Brad Stewart
OFFSHORE WARRIOR	- 626,345	Jacob Booth
PACMANIA	- 3,250,140(c)	Amos Burbidge
PINBALL MAGIC	- 332,390	Tracey Chilcott
PIONEER PLAGUE	- 35,412	Keir Sooby
POPULOUS	- 201,600	Nathan Allen
POW	- 612,865	David Thompson
RAMPAGE	- 111,600	Kamikaze Andy
SIDEWINDER	- 811,250(c)	Amos Burbidge
SILKWORM (Heli)	- 913,700	A J Dunstall
SILKWORM (Jeep)	- 515,100	Andrew Barker
SKWEEK	- 715,940	Stephen Lander (Steve Lee)
SPEEDBALL	- 17,650	Level 55
STARWARS	- 5,722,822	Amos Burbidge
33STRIDER	- 10,000	Christopher Minges
SUPER HANG-ON	- 13,857,903	Brad Stewart
SWORD OF SODAN	- 364,750	Kamikaze Andy
TEEN.MT.NIN.TURTLES	- 140,900	David McLeish
TEST DRIVE	- 112,915	Wayne Haesler

TEST DRIVE 2 - 307,910

Amos Burbidge

TETRIX - Level 103

Sally Pollock

TURBO OUTRUN - 100,260,819

Matthew Mantle

TV-SPORTS FOOTBALL-189-0

David McKinney

TYphoon - 54,255

Owen Webster

VIRUS - 7,131

Amos Burbidge

WHIRLIGIG - 28,210

Nathan Allen

XENON II - 917,420

Mark Porta

ZOOM - 58,903

Sally Pollock

*****COMMODORE 64*****

BATMAN THE MOVIE - 330,920

S Watford

BANGKOK KNIGHTS - 36,800

Nick Van Heeswyk

BOMB JACK - 344,560

J Jacobs

BUBBLE BOBBLE - 1,009,857

Kishore Ludbey

BUGGY BOY - 118,750

Paul Millward

CHASE HQ - 9,220,121(c)

Iceman

DOUBLE DRAGON - 17,340

Paul Millward

DOUBLE DRAGON II - 255,190

Nick van Heeswyk

FAST BREAK - 136 to 9

Chris Byrne

GIANA SISTERS - 81,981

Russell O'Neill

GRYZOR - 203,900

Paul Millward

HANDBALL MARADONA - 59,000

N. Van Heeswyk

HAWKEYE - 267,800(c)

Nick van Heeswyk

IKARI WARRIORS - 139,300

Iceman

INT. KARATE - 139,300

Paul Millward

LAST NINJA II - Nick Van Heeswyk (c 34.2 sec)

(c 34.2 sec)

OPERATION WOLF - 168,789

Kishore Ludbey

OUTRUN - 6,438,787

Kishore Ludbey

PAPERBOY - 19,750

Royston Diaz

QUE-DEX - 639

Chris Byrne

R-TYPE - 684,200

Nick van Heeswyk

ROBOPOL - 82,250

Tim Lockwood

ROLLING THUNDER - 222,740

Iceman

SALAMANDER - 235,300

Paul Millward

STREET FIGHTER - 127,050

Chris Byrne

SUPER CYCLE - 212,210

Iceman

TEST DRIVE - 24,790

Jason "Maverick" Denham

THUNDERBLADE - 1,734,040

Troy Morrison

THUNDERCATS - 57,500

Chris Byrne

TARGET RENEGADE - 330,450

Chris Byrne

THE UNTOUCHABLES - 70,230

Simon Watford

WONDER BOY - 237,650

Kishore Ludbey

*Scores followed by (c) indicate that the game has been completed.



Mindscape Thunderstrike competition

☞ Fly the amazing Thunderstrike Space Cruiser in this month's Mindscape Competition. Thunderstrike is one of the hottest games around and it's getting rave reviews everywhere. "The graphics are great, the sound brilliant, and the gameplay absolutely absorbing - the speed at which the graphics move is quite stunning" says one English mag. There are three copies to give away, Amiga only I'm afraid. This month's competition is easy. All you've got to do is get your name and address in on the back of an envelope and be one of the first three entries drawn out of the hat. Quite tricky really. So get on with it folks - send those entries to Phil Campbell, P.O. Box 23 Maclean NSW 2463 before September 20th 1990.

Here's some excitement! Join Andrew Baartz as he presents this balanced assessment of ...

For someone as uncoordinated as myself, skateboarding via video is an excellent arrangement - to be able to skate with my bottom safely on a chair, with nowhere to fall, is bliss!

My ill-spent youth was spent gathering a wealth of experience in pin-ball parlours filled with neolithic video game machines, so although I never achieved a great deal of success on a board, I've developed enough dexterity to overcome most of the difficulties of this simulation. And what a great simulation it is too!

Skate of the Art takes you to various panoramic locations, from Holland to Miami. The graphics are clear and crisp, from subways to SkateParks. There are twenty exacting levels of play, each one preparing you for the final challenge - The World SkatePark. But be warned. Only the best will get to attempt this one!

The controls are very simple. You really only need to know three things. With the fire button you increase speed. Moving the joystick to the left puts you into a tail slide. And if you do both at once you can do some pretty impressive "ollies" with multiple 360's.

If you're not up on the jargon, a "tail slide" is just what it sounds like - you lift the front of the board and slide the tail. A good way to approach the steeper ramps. An "ollie" is a bunny hop. But in *Skate of the Art* nothing is done by halves. Depending on your speed, you can spin around (that is, doing 360's), while you are doing an "ollie" and gain several metres in distance. This sort of jumping is critical to your success. Don't be fooled by the apparent simplicity of "Skate of the Art". It would be a big mistake to underestimate the amount of skill and accurate timing that it requires. With these basic skills you develop techniques for getting over obstacles and around other objects that impede your progress.

The initial scenes are set on a railway station platform. Besides the ramps and jumps, people have left various bits of luggage in your way. You're given five skateboards to begin. At first it seems easy and just requires a little practice. But

SKATE OF THE ART

each frame has its own particular perils - and the spills are spectacular! It's a fine combination of speed and timing. The computer graphics guys had fun with this one. I haven't replaced my joystick since my last review and I really needed

a little more precision. There are a whole range of exciting things waiting ahead, but I won't spoil your fun by giving too many details away. Besides, the anticipation might be too much for you and could put your concentration off. The movement is rapid and the reflexes are really put to the test. For those who are even more "unco" than me, there is a

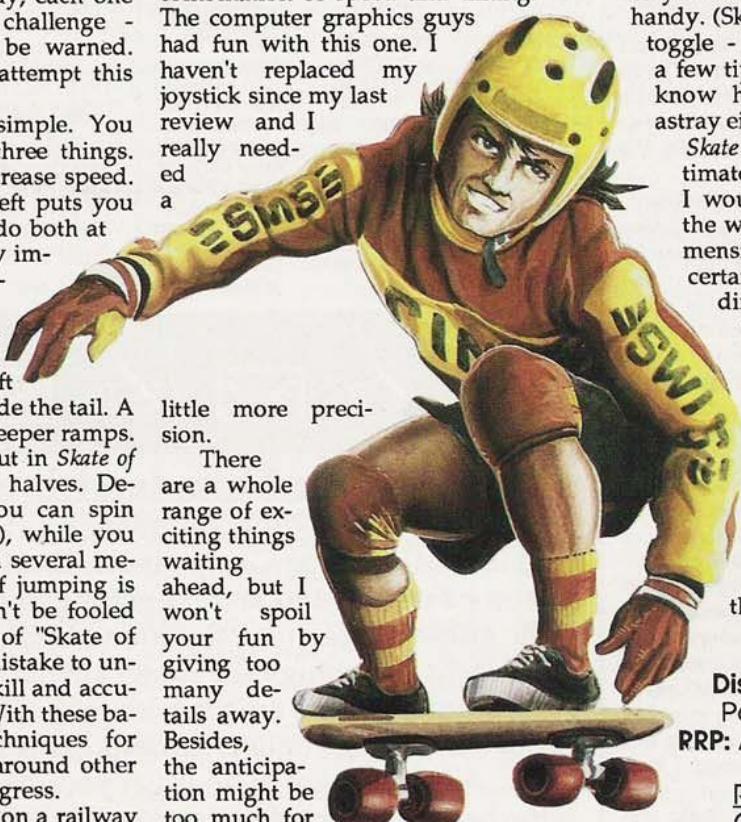
slow motion toggle. I was too proud to try it in the slow motion mode, but those of you who have no shame may find it handy. (*Skate of the Art* also has a pause toggle - which is quite useful too). And a few tips, from friends who really do know how to skateboard, won't go astray either.

Skate of the Art claims to be "The Ultimate Freestyle Skateboard Game". I wouldn't put too much weight on the word "Freestyle", since a two dimensional video screen does impose certain restrictions on a really three dimensional sport. Nevertheless, it seems to be the ultimate game, if you want to express those Atmospheric Aspirations!

Take up the *Skate of the Art* challenge: Free your Body - Free your Mind - and enjoy it! As they say "So what the Heck! Jump on the Deck!" And make your mark in the Hall of Fame for the "Respectable Rollers". □

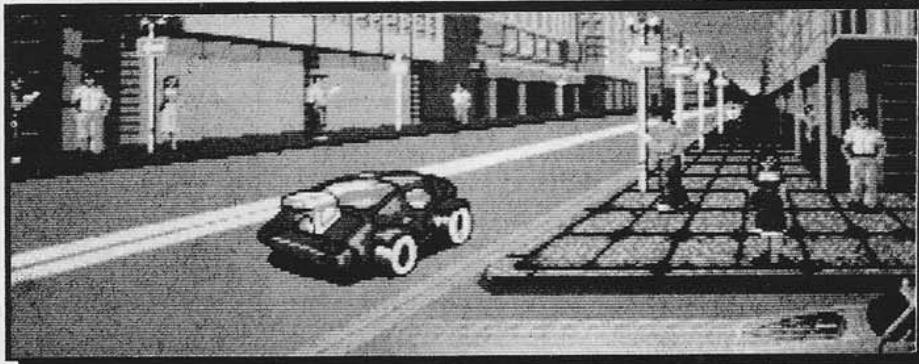
Distributed by:
Pactronics (02) 748 4700
RRP: Amiga \$49.95

Ratings:
Graphics: 83%
Sound: 72%
Gameplay: 78%
Overall: 79%



HOT ROD

Resident racing expert Juris Granis straps himself in for some top-view racing action. Has Hot Rod got what it takes to beat the best? Come for the ride and find out ...



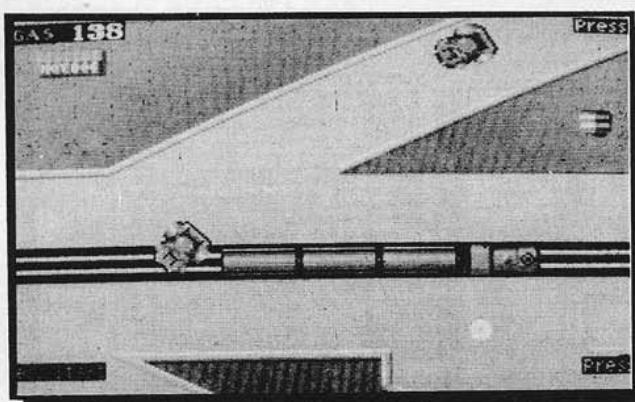
The lights are green, my engine roars, and I'm off and racing - well, at least I think I am. Believe me, in your first few games of Hot Rod this is no easy task. It takes practice - but it's worth it.

The loading procedure is quick and simple. The title screen is excellent - the graphics are a pleasure to watch, which makes this game highly addictive. This is a typical "View from above" race game, so all you can see is the top of the cars. Sound effects and music are OK, though not nearly as classy as the graphics.

The game has an amazing thirty tracks to complete so you will be stuck on your computer for a while. The computer will allow up to four players, but you'll need a joystick adaptor in the parallel port and four joysticks. Pressing the corresponding function keys will decide how many players will start the next race - you can do this

while playing if someone wants to join in for the next race.

Your car is red, the others are yellow, green and grey. The computer starts the race by flashing three lights. Then you're off and racing. Your fuel is constantly being gurgled by the engine so it is an idea to collect the gas which is provided along the way - it's shown as a flashing circle with a 'G' in the centre. You can collect points along the way in the same manner as collecting the gas. At the end of each



level the computer awards bonus money to spend in the shops. (Bonus gas and points are awarded depending on how well the stage was completed.)

When you complete a level you will drive into a Parts Shop. Choose from a selection of tyres, Bumpers, Wings (not flapping wings, but tail wings for road handling), & Front and Rear engines.

Hot Rod is in some ways disappointing. Firstly if you get too far in front of the first car the computer will put you back to second place and deduct twenty points from your fuel - likewise if you get too far behind. Secondly the other cars which you race against can go through trains, cop cars and construction crews, though you can't. Not fair! If you happen to crash your car by running into cop cars, trains, or construction crews you'll lose twenty points off your gas. Thirdly when you buy equipment sometimes you lose all your equipment if you don't win the next race.

Sometimes there are hazards. In level five you are faced with sand over the track. In levels eight and nine you risk falling off bridges into the watery depths below. In the later levels of the game you will come across rain, snow drifts and ice over the roads. I found after level fifteen they start repeating the levels, though they got much harder.

This is a game that will test your reflexes - it's highly addictive and a must for car game freaks. It sure captured my attention and it should capture yours. □

Distributed by:

Ozisoft (02) 313 6444

RRP: Amiga: \$59.95

C64 disk: \$35.95

Cass: \$26.95

Ratings:

Graphics: 80%

Sound: 60%

Gameplay: 72%

Overall: 76%

QUICKSHOTS

A quick look at what's new in the world of Games

WINGS -

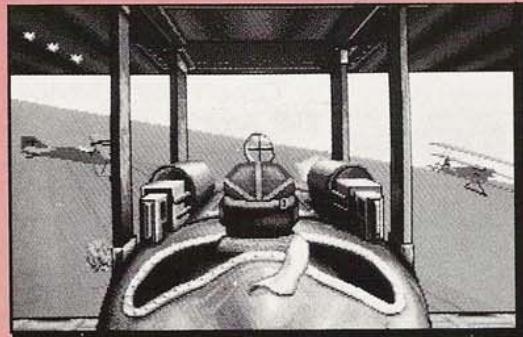
Cinemaware are best known for their amazing "interactive movies" - games where you get to play the lead role in a movie that unfolds around you. But times have changed - Cinemaware have spread their wings and diversified into bigger and better things. And boy, have they done it well! I've only seen the demo version of *Wings*, but I can say without hesitation that it's shaping up to be one of the best games ever. You get to fly a classic

bi-plane, and dog-fights are the order of the day. This is real "Red Baron" material, and your plane twists and turns beautifully as you try to drill your opponents full of holes. Graphics are a mix of filled-vector and bit map, giving an unequalled sense of realism. This is one to look out for, folks. We'll have a full review soon, so stay tuned.

Distributed by:

Questor (02) 662
7944

RRP: Amiga: \$79.95
- Shipping 26th August.



UNREAL -

"Unreal, man" - hey dudes, that's cool talk from a long gone era. And now there's a game that goes by that name. *Unreal*. Meaning far out, cool, groovy. Or maybe in this case, too far out to be true.

Unreal is certainly an unusual game, and my first looks left me with mixed feelings. For a start, I've never

met a game that switches from ultra-high res to ultra-low res with such little apparent embarrassment. The title screen is full of promise - a wonderful graphic in high resolution interlace mode, full of promise for great things to come. But then the game begins. Not in interlace. Not even in regular hi-res. But in graphics that are so chunky that your dog could eat them for dinner. Why? Dunno. But the funny thing is that it doesn't seem to matter.

You're controlling a golden pterodactyl-like creature as it flies across a prehistoric landscape. *Unreal*. You duck and weave between arboreal arches (you know - trees) and occasionally have to move fast to dodge a dinosaur skeleton - alternatively, you may choose to blast them with your anachronistic dual beam laser rays. Boy. This is fun. And wild. And ... well ... unreal. Sound effects are atmospheric, the graphics are unusual and very fast, and the game is certainly worth more than a passing glance. Supplied on three disks, the Amiga version of *Unreal* will keep you guessing for quite some time.

Distributed by:

Questor (02)

RRP: Amiga: \$59.95

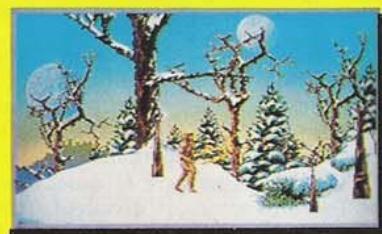
Ratings:

Graphics - 75%

Gameplay - 75%

Sound - 80%

Overall - 76%



SECRET OF THE SILVER BLADES -

The frigid valleys of the DragonSpine Mountains echo with the screams of terrified miners. What have they done? They've disturbed an ancient burial vault and unleashed its terrible contents - terrifying monsters, straight out of the deep freeze. You and your fellow heroes are the only ones who can take them on.

Secret Of The Silver Blades improves on the popular "Advanced Dungeons and Dragons" game system used in *Pool of Radiance* and *Curse of the Azure Bonds*. If you've already conquered them and you're looking for a fresh challenge, you can transfer your team of characters and continue your life of adventure. This time, you can explore the largest 3-D adventuring expanse ever in an AD&D computer game.

C-64 graphics are top notch - as usual in the AD&D series - and as usual

the command window displays all text in a specially designed font. If RPGs are your cup of tea, make this one the next on your list.

Distributed by:

ECP (02) 075 963 488

RRP: Amiga: \$34.95



FLOOD -

What with the strange weather this year, a game called *Flood* is always likely to be topical. The fact that it's programmed by Bullfrog Software is quite appropriate in a wet sort of way - even more important, when you remember Bullfrog are the guys who gave us the amazing *Populous*, then you'll realise that *Flood* is definitely worth a look.

The idea of the game is very simple - within each level your character (Quiffy) must explore the caverns that make it up and collect all the trash that's not nailed down. Then he can use the end of level teleporter to proceed to the next of the 42 amazing levels. Quiffy is a versatile character, though a bit rotund - people have said the same thing about me! He can climb walls, leap long distances and even hang upside down - and believe me, they're all useful talents. During the game

you'll fight off nasties like the Psycho Teddies - they look cuddly, but they're mad, dangerous and omnivorous. Watch out for ghosts and Bulbous Headed Vongs as well, not to mention the Beady Balls, Lumpy Wanderers and Vacuous Gombos.

Distributed by:

ECP (02) 075 963 488

RRP: Amiga \$49.95



★ SUBSCRIBE ★

The Australian
COMMODORE
and **AMIGA REVIEW**

*Make sure of
getting
your copy.
Subscribe
now!*

Please enrol me for _____
issues subscription to The
Australian Commodore
and Amiga Review,
commencing with the _____
issue.

I enclose a cheque/money
order for \$_____

Please charge my
Bankcard

Bankcard number: _____

Expiry date: _____

Name: _____

Address: _____

Postcode: _____

Please tick
applicable box

First Subscription

Renewal

TO: The Australian
Commodore
and Amiga Review
21 Darley Road,
Randwick NSW 2031
(02) 398 5111

Rates within Australia:

6 issues \$19.00 (inc postage)
12 issues \$36.00 (inc postage)
Minimum OS postage \$35.00 AUS
(Air Mail) more for some countries

If you don't want to cut this
out photocopy it or just
send a letter.

★ NOW ★

NINJA SPIRIT

ANDREW PHANG takes on the latest Ninja nasties, and finds that it's one for the tough guys. Do you qualify to take on the NINJA SPIRIT?

►1990 is definitely the Year of the Ninja. Our television and movie screens have been invaded by those "Teenage Mutant Ninja Turtles", and our computer screens have also been invaded by an avalanche of ninja games. The latest in this genre is *Ninja Spirit*, Activision's conversion of an Irem arcade game of the same name.

Each ninja game has a different twist to distinguish it from other games, and *Ninja Spirit* is no exception. You are Tsukikage ("Suki" to your friends), the ghostly spirit of a white wolf. When an evil Warlock takes over the realm, it is up to you to defeat the mage and restore order. To this end, the "powers that be" have decided to transform you from a wolf into an all-purpose ninja warrior. Being a ninja isn't all it's cracked up to be, and you yearn for those days where you could roam the wild plains on all fours. It is decreed that once you have killed the Warlock, you may return to your wolfly self, and so you set out on your quest.

I was pleasantly surprised by the fast loading time. Before you could say "Bruce Lee" the title screen flashed before my eyes, and it was soon loading the first level. Music blared from the speakers, and I found my Ninja character all alone in a temple. He wasn't alone for long! Suddenly evil ninjas sprang out from both sides of the screen. With a swift blow, "Suki" sent the marauders to Ninja hell. Evil Ninjas come in all shapes and sizes, from the "kamikaze" brown ninjas, to the fire throwing green ninjas. If you manage to kill a gold coloured ninja, a special token is dropped. Pick up the token to increase the firepower of your weapons. In later levels, some tokens will provide Suki with a "fire rope", a shield of fire which makes him virtually indestructible. Unfortunately, "fire ropes" only last for one level.

After a terrific battle at the end of Level One, I finally manage to kill the

giant fire spitting statue. On to Level Two, and a new musical soundtrack starts to play. This is one of the great features of the game, as each level has different music (listen to the rock rhythms of Level Three!). Unfortunately there are no sound effects to complement the music - a well implemented "hee-yah" would certainly have added to the atmosphere.

Suki soldiers on, past the ninja filled forest and bridges in Level Two. Another huge monster lies at the end of the level. This time, it's a giant tree crawling warrior. A quick switch to the shuriken (throwing stars) as the weapon of choice, and soon this monster is fertiliser for the forests. The graveyards of Level Three are beautifully drawn, and feature some really smooth horizontal scrolling. All of the characters are nicely animated, especially the big monsters at the end of most levels. The backdrops are also commendable, with lots of colours and detail. *Ninja Spirit* is a game with solid gameplay (in all, there are nine levels of ninja mayhem), solid graphics, and great music. However, there is one criticism of *Ninja Spirit*

which reduces some of its playability and that is the level of toughness. Make no mistake about it, *Ninja Spirit* is tough from beginning to end. There are certain factors that contribute to this. Firstly, each level has a five minute time limit. This is especially frustrating in Level Seven,

where Suki must climb an impossibly high cliff and defeat a giant ninja powered kite within the time limit. Secondly, there is no continue option, and you only have five lives in each game. Finally, when Suki bites the dust and there are a few remaining lives left, you restart without your extra firepower and ninja spirits. This makes the game almost impossible to complete at higher levels.

I would heartily recommend *Ninja Spirit* as an excellent example of a horizontally scrolling arcade game. Despite its toughness, there is a certain addictive quality about this game. I keep coming back to play it, if only to prove to myself that no game is too tough for Kamikaze Andy! The drive to complete this game is certainly there, and your efforts to reach the final levels will be rewarded with some great action, graphics, and (especially) music in the later levels. Buy it, and prepare to be challenged! □

Distributed by:

Ozisoft (02) 313 6444

RRP: Amiga \$59.95

C64: disk: \$35.95

Ratings:

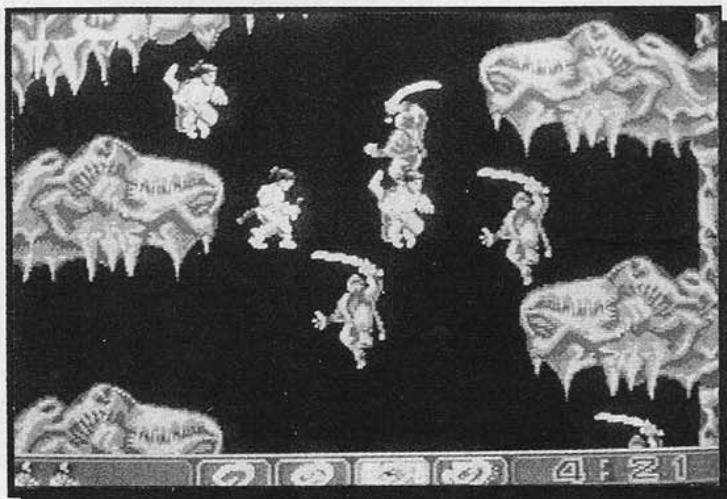
Graphics: 80%

Sound/Music: 86%

Gameplay: 80%

Value: 78%

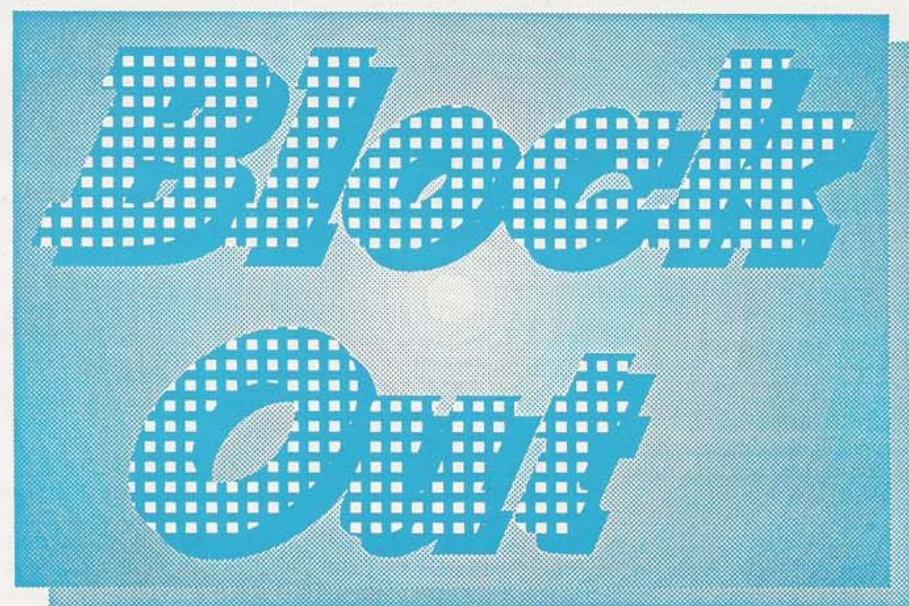
Overall: 80%



Remember Tetris?
**Now there's a new
version, and this time
it's in 3-D.**
**Phil Campbell
investigates ...**

As I lay me down to sleep, my head no longer fills with sheep. Instead, it fills with blocks. Falling blocks. They just keep on coming - falling and spinning, falling and spinning in a never ending cascade. It's like having rocks in your head, only worse. They come in lots of different shapes and sizes, clusters of cubes in every possible configuration, all of them spinning gently in my mind. And my nightmare is this. As they land I have to fit them all together - without leaving any gaps. A huge and never ending Chinese block puzzle.

That's the trouble with playing *Blockout*. The game refuses to stop when you turn off the power. Sure, the pixels will fade from your screen - but the game keeps going in your head. *Blockout* is a direct descendant of *Tetris*, the first - and only - Russian computer game to take the world by storm. *Tetris* was strictly two dimensional, and featured a range of simple interlocking shapes dropping into a rectangular frame. All you had to do was rotate them on the way down so they would neatly fill all the gaps. Each time a row was completed, it disappeared leaving room for more layers. *Tetris* met with rave reviews. It was described as the game that was "perfectly simple, and



simply perfect." And it was. But what happens when you add a third dimension?

For a start, the rectangular frame becomes a three dimensional pit. Imagine, if you will, that you are looking INTO your monitor screen rather than at it. In the centre of the screen you will see the bottom of the pit, marked out as a grid. The grid lines are projected up the walls of the pit, radiating from the screen centre. Sounds confusing, I know - but it looks quite effective.

The falling blocks could be mistaken for fragments of an exploded Rubic's Cube. Don't be fooled. They're not - they are actually bits of a Soma Cube, which sounds more impressive when you describe the game to your friends. The Soma Cube is the product of an unusual geometric theorem produced by Danish mathematician Piet Hein. Basically, the theorem tells you that if your Rubic's cube falls apart then it is theoretically possible to put it all back together. Something like that, anyhow.

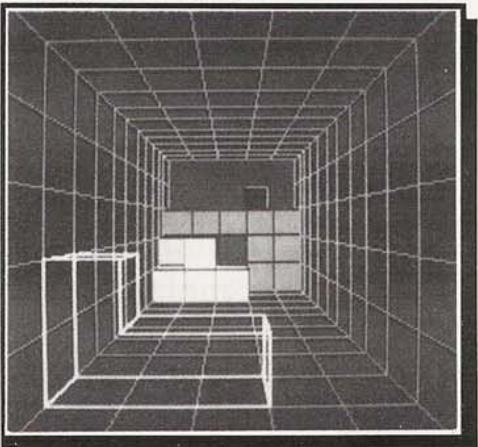
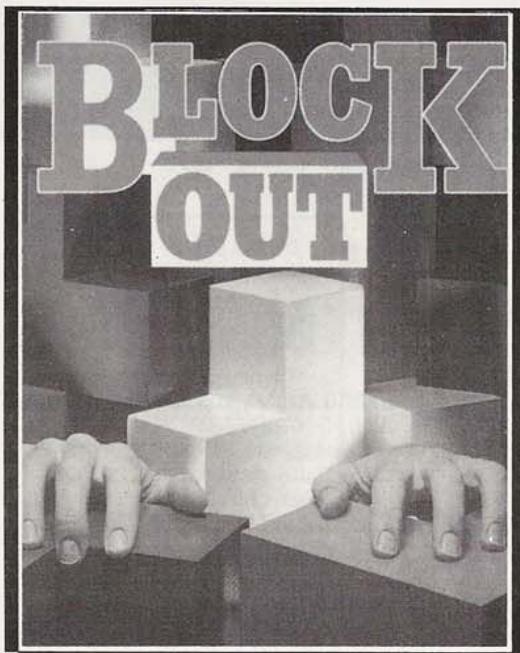
The upshot of all this is simple. No matter what shape it is that decides to fall into your pit, it is theoretically possible to interlock it with the other blocks in the pit to form a perfect cube. Like *Tetris*, if you can completely cover the floor of the pit, the layer will disappear leaving room for more blocks. Leave any gaps, and the height of your stack increases - when it hits the top, you're out of business.

Game controls are simple enough, though both hands are required. Your left hand controls the keys which flip and turn the blocks on each axis - your right hand

moves the block laterally with either your mouse or another combination of keys. Co-ordination is tricky at first, making a visit to Training mode almost essential.

Blockout is a logical evolution from *Tetris*, and it's just as addictive. If you're a geometrical genius or a shelf stacker at Franklins you will immediately feel at home - for anyone else, a little perseverance will work wonders. The idea is simple, the gameplay is fun, and you can choose a degree of complexity to suit yourself. *Blockout* is the sort of game that is equally at home on both the Amiga and the Commodore 64, though obviously the block rotation is faster and smoother on the Amiga. Even so, the C-64 version is very playable - it's not a game that depends on flash graphics and sound effects. □

Distributed by:
ECP (075) 963 488
RRP: Amiga \$49.95
C-64 disk \$39.95



Sydney 879 7455 ☎ National 008 252 879

Huge Public Domain Library

Software you can afford - from as low as \$6 a disk full! Just phone to place your order.

Choose from any of our hundreds of public domain disks or ask about our large range of commercial products. Public Domain disks dispatched next day. We fully support all products we sell.

AmigaDOS Utilities

Everything you need to keep your disk collection in order. Includes DiskSalv, DiskX, Disk Utilities Five, Boot Intro Maker, FileInfo, DiskX and NewZAP3.18 Track and Sector Editors and PopInfo.
\$8.95

Super Workbench 1MB Version

Powerful calculator, Window Iconification, Custom Workbench Menu's, PopInfo, Background Textures, SID - Better than Diskmaster only cheaper!, and ARP1.3 installed and ready to boot! (512K Version Available)
\$8.95

Anti-Virus PAK

Don't get caught. Insure against infection with our special boot-block program which not only eradicates virus infections but prevents future invasion.
\$14.95

Text Editors/Wordprocessing

All the best text editors including TextEd-2.1, Qed, HED, Med, Az, Word Count, Xspell and AmigaSpell. Full documentation on disk.
\$8.95

ARP 1.3

For a faster CLI and speedier more powerful commands as well as more space on your Workbench use this disk to install ARP 1.3 on your boot disk.
\$8.95

Communications Disk

Just getting into telecomputing? This is the disk you need to get started. Includes JR-Comm, a powerful terminal program, plus a host of compaction programs for decompressing BBS downloads and packing your own files for storage or modem transfer.
\$8.95

Luxo Teenager - 1MB

A fabulous ray-traced animation of two lampshades - father and son!
\$6

RGB Hazzards

An educational presentation created with the Director with a brilliant humorous twist. A must for every collection. Guaranteed to entertain.
\$6

Ace Animations 16

Includes three Sculpt-4D animations - Bottlehead, Walking-Note and Walkersnap.
\$6

Ace Animations 17

Two ray traced animations - CARcircle and Clerkplane show off more Sculpt 4D power along with two stills by the same program.
\$6

Ace Animations 18

Often spoken of as one of the best ever, the amazing Clerk-Kent character is at it again on this disk.
\$5

Ace Animations 19

A frame-grabbed black and white hi-res animation of a knight coming out of a book. Impressive action - with digitised sound.
\$5

Other Titles Available

Newtek Demo Reels II and III - \$8.95
Walker Demo I and II (2MB) - \$8.95
Walker Demo I (1MB) - \$5
Artscape Demo Disk Two Disk Set - \$8.95
Badge Three Disk Demo Set - \$11

Plus many others...
FISH CATALOGUE ON DISK AVAILABLE.. \$5 (up to 380)

Amiga Commercial Software

Many Other Titles Available - Call and we will track it down for you.

* September NEW PRODUCTS and SPECIALS *

Vidi Frame Grabber

Grab black and white images in real time or digitise still colour images.
\$319

Videoscape 2.0

Includes NEW Pro-Motion for smooth camera and object path design. Also pseudo-raytrace mode!
\$229

Excellence V2.0

Now more powerful than ever. Spell/Thees and Grammar.
INCLUDES FREE Memorex 80 DISK BOX.
\$299

Amiga 500 512K RAM Expansion

Unique external On/Off switch and clock/calander.
\$169

Prime Artifax

1st Floor, Unit 12, 33-36 College St

Gladesville, 2111

POST TO:

P.O Box 288, Gladesville, 2111

Name _____
Address _____
Post Code _____

VISA M/Card B/Card Cheque Money Order

Number Valid--/-

Products



Feel like a good blast?
**Join GREG MUNRO as
 he shoots everything to bits ...**

As Pink Floyd said, "then one day you find, ten years have got behind you". It's been more than a decade since video games took off in a big way. And although those early arcade machines have long since died out, many have recently been resurrected in PC Land. Commercial and Public Domain versions exist of such classics as *PacMan*, *Galaxians*, *Centipede*, *Asteroids*, and of course the one that began it all, *Space Invaders* (see Phil's article, June ACAR, p70).

A Canadian company called "Visionary Design Technologies Inc", have also joined this "back to the future" trend. Their *Datastorm* is a clone of an arcade game called *Defender* that appeared eight or nine years ago. Remember *Defender*? It was one of the first to employ a horizontally scrolling field of play, as you piloted a wedge shaped spaceship along the surface of a planet, picking up pods to save them from attack waves of alien invaders. It was very fast, and totally incomprehensible to the uninitiated. My first efforts were measured more in seconds than minutes, I recall.

Datastorm is a little more player friendly, with full on-screen instructions (with graphics) on how to play. It's an ex-

cellent fast-and-furious shoot-'em-up (will somebody please invent a new term - I'm sick of "shoot-'em-up"! - Hey Mr Ed, how about a competition to find one?). The graphics are great, and the gameplay is fun. I only had one complaint - this is yet another of those games that keep your floppy disk spinning the whole time you play.

The credits are accompanied by nice pix of flapping flags representing the countries of origin of the programmers, and an excellent musical soundtrack. If you don't touch the mouse, the game automatically enters instruction mode. These animated instructions are clear and adequate, and may be paused so you can read each screen. You can just start playing and have fun shooting everything in sight, but it's advisable to read them, as the object of the game is not readily apparent.

When you finish with the instructions, you may choose the level of play and other variables. F1 to F4 buttons give a choice between games - one player; two alternate players with one joystick; two alternate players with two joysticks; and two player team. The two player team option is the most enjoyable and also the least difficult.

The first rule of play is to remember to hit the spacebar for shields at the beginning of each level. Forget and you'll soon disappear with a loud bang in a spray of pyrotechnics! The second rule is remember to turn off the autofire when you commence each attack wave, or you end up shooting the pods trundling along the surface of the planet, which you're meant to rescue. You collect these by running over them, and take them to a

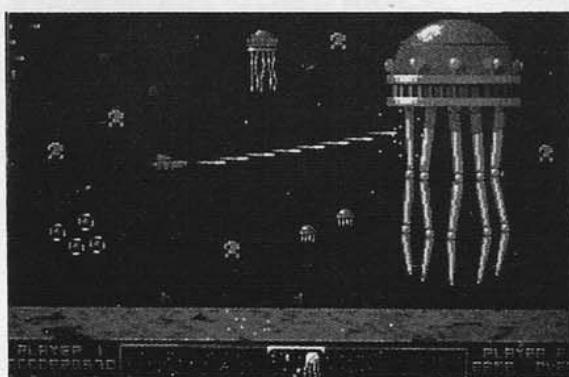
force shield beam for protection, before the nasty "Landers" swoop down to kidnap them and turn them into "Traitors". If you rescue all eight pods in an attack wave, you get a Man. If you get four Men, you get a Warp to a higher level.

Landers are one of about 25 types of attackers, many of which warp onto the screen at once in a spectacular and colourful display. There are Crazies, Pulsars, Blitters, Tornados, Twirlers, Gravitrons and many more, each with its own characteristics. Some multiply into other types when shot, like the proverbial sorcerer's broom. There are also two huge composite enemies that appear occasionally and take lots of firepower to destroy - Space Squids and Inter-galactic Space Skulls. Some enemies drop "Powers" - icons that give extra lasers, rapid fire, special shields, missiles that automatically shoot Landers, etc. Competing with your partner in the team game to see who can pick these up first can be hilarious, as it's very hard to do quickly.

The graphics in *Datastorm* are better than I remember from *Defender* (though it's been a long time since I saw a *Defender* screen!). Brilliant colours and lots of them, with that 3D metallic look; fast non-stop action; and challenging play make *Datastorm* an excellent and addictive game that is a lot of fun to play. □

Distributed by:
 Pactronics (02) 748 4700
RRP: Amiga only: \$49.95

<u>Ratings:</u>	
Graphics:	80%
Sound:	75%
Playability:	90%
Addictiveness:	90%
Value:	80%
Overall	85%



CRACK DOWN!!

Great fast paced action!!! ANDREW BAARTZ takes on Dr K in his evil fortress to bring you this story. Now read on ...

►Crack Down is a sensational action game. Everything about it is perfect for hours of gripping entertainment. The mission is to penetrate the fortress of the evil Dr K. and put an end to his dastardly schemes. To achieve this objective the heroes plant time bombs at strategic locations on each level and flee to the next before they explode. But Dr K. has some very nasty surprises to thwart your plans.

The game can be played in a one player or a two player mode. In both modes the computer is the opponent. The two player mode gives you a huge advantage. Dr K. has robot defenders called replicants that have to be dealt with and a partner can save you from some pretty nasty situations.

Andy and Ben are the names of your two heroes. They are armed with a cannon, a machine gun and a device called the super bomb. As you hunt around the corridors of the fortress, you will discover caches of more ammunition, to replenish your reserves. The super bomb kills every replicant in the immediate vicinity.

Both characters are martial arts experts. They engage in this whenever close enough to the robots. The machine gun is handy but only has the effective killing range of the screen. The cannon is the winner. When fired it hurtles down the corridor until it hits something - and sometimes it destroys a couple of things. This sort of weapon, that can kill beyond the line of sight, is only valuable because of sensor map at the top of the screen. It highlights your own positions on the level and those of the enemy. It also provides a map through the corridors to safety, it marks the sites to plant the time bombs and the locations of the extra ammunition caches.

The game begins with the heroes breaking through the main gate into the replicants' barracks. The orange guards are masters at Kung-Fu and the green guards are expert shots. You have three minutes to plant three bombs at three strategic locations, each marked with a big red cross. Then you must escape through the other side before the barracks are totally destroyed.

Then comes level two - the underground cavern that takes you to Dr K's fortress. Machine gun carrying bullet proof guards just keep on coming out of the trap-doors within the maze complex. However, nothing that any self respecting super-hero will be worried about. After destroying that level it's on to the refinery level.

Here the guards hunt you with machine pistols. Quick reflexes are needed as you throw yourself against and behind walls and barricades to dodge their line of fire. The joystick control is good. Too good - be careful not to throw yourself into the water canal and drown. There are some flame-thrower carrying replicants to dry you off if you do. Escape without third degree burns, if you can!

The fourth level takes you deep into Dr K.'s complex. The electric doors can be used to your advantage, if you think about it. Avoid the line of fire. Try to lure the guards into the open. Hide and ambush them. Choose your battles wisely and be ready with the superbombs. This level also supports the trans-

porter room - guards materialise from nowhere, making your escape rather dicey. The bad news at this point is there are twelve levels to go - and some of the bad guys that you've got to face are really bad. There are shield carrying, sword wielding replicants that still come at you after three or four cannon blasts. When you get to this stage it pays to pause the game and use the map to work out a strategy. You can't afford to just attack randomly.

The "Continue" option is a nifty feature. Your character has five lives. If you've earned enough points when the fifth life is lost, you can either trade your points for five more lives and continue, or stop and glory in your high score.

Crack Down will give you some of the best fun you'll ever get. Buy it! □

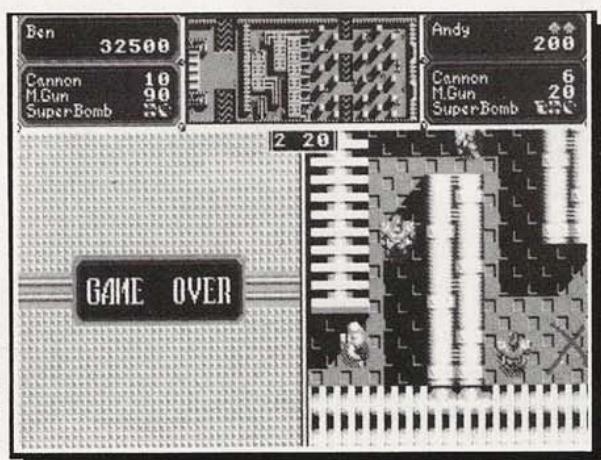
Distributed by:

Ozisoft (02) 313 6444

RRP: Amiga: \$59.95
C64 disk: \$35.95
Cass: \$24.45

Ratings:

Graphics: 78%
Sound: 72%
Gameplay: 83%
Value: 85%
Overall: 80%



Adventurer's Realm

by Michael Spiteri



Hello adventurers all around Australia. Welcome to Adventurer's Realm, the section of the magazine that is dedicated to all adventurers, role players, and wargamers. If you are stuck in any adventure game, write to me at the address below. If I cannot help you, your problem will be published on these pages for someone else to ponder. If you can help someone or can give some general hints, then please send them in! The address for adventure and wargame correspondence is:

Adventurers Realm P.O.Box 351 Pakenham Vic 3810

Kamikaze Andy can offer help on most role-playing games (*Ultima*, *Pool of Radiance*, etc), but he doesn't give hint sheets! His address is: **The Dungeon P.O.Box 315 Maddington WA 6109**

ALWAYS ENCLOSE A STAMPED ADDRESSED ENVELOPE.

Realm's Chit-Chat

Software queries flood the Realm this month. Edward Chapman of North Balwyn in Victoria has searched high and low for *Lord of the Rings* on disk. The original distributors S.L.M. Publishing have since been taken over by Mindscape in Sydney. They advertise quite often in this magazine, so give them a try. If worse come to worse, you could contact the programmers, Beam Software, based in Melbourne.

Regular realmer Andrew Hansen (Pennant Hills, NSW) wants to know if *Ultima V* has been released yet on the Amiga. According to Realm's Roving RolePlayer Kamikaze Andy, the game was released on 16 bit machines only recently (read ahead for more *Ultima* info!).

Bev 'The Beaver' Deegan thinks she might have lost her money when she wrote to a mail order company for her

copy of *Scapeghost*. Has anyone seen *Scapeghost* about anywhere. Tim Allison of Questor, major distributors of Rainbird products, is unable to confirm its release in Australia yet.

Finally, Computer Spot is advertising *Dragon's Lair II* for the Commodore 64. Methinks this is the tape version released long before the recent fancy graphix game for the Amiga.

Clever-Contacts

Two more clever contacts who are willing to offer their time for your personal adventure problems. This month, Sierra fans are treated out.

Name: Robert McGechen
Address: 51 Exmouth Road, Dapto, NSW 2530

Help offered: *Kings Quest 1,2,3*, *Space Quest 1,2,3*, *Leisure Suit Larry 1,2,3*, *Police Quest 1*, *Maniac Mansion*, *Zak McKracken*,

Free Hint Sheets

The following hint sheets are available at no cost at all (just make sure you enclose a stamped addressed envelope), however due to a limited supply, you are entitled to any four from the list below.

Bards Tale I	Borrowed Time
Bards Tale II	Never Ending Story
Bards Tale III	ZZZzzzzzz
Hitchhikers Guide	Zork 1
Faery Tale	Zork 2
Castle of Terror	Zork 3
Adventureland	Deja Vu
Pirate Adventure	Dracula
The Pawn	Fish

Many thanks to everyone who sent in hint sheets to be added to this list. I am in the process of converting them all to the standard A4 format. I'm also working on a special hint book packed with hints and tips sent into the Realm over the past four years. The address to write to for your hint sheets is: Free Hint Sheets, P.O. Box 351, Pakenham, Vic

Future Wars (and possibly *Gold Rush*).

Name: Nathan Allan
Address: 11 Maple Avenue, Pennant Hills, NSW, 2120

Help offered: *Leisure Suit Larry 1,2,3*, *Space Quest 2*, *Kings Quest 1,2,3*, *Ultima V*, *Police Quest 1*, *Faery Tale*, *Zork 1,2,3*.

Problems, Problems and More Problems (or the Troubled Adventurers Department)

The following adventurers are stuck in some pretty heavy games, and your assistance would be greatly appreciated.

A.J.Barnard of Epping in Victoria is stuck in a C64 adventure called *The Detectives*. Opening a safe and working out some secret passages are problems causing grief.

An adventurer called **Michael** (not me!, really!) is stuck in *Tass Times*. After rescuing Gramps from the white tower, how do you meet up with Snarl, and what action do you take? Then in the *Crimson Crown*, how do you get the silver shiny thing that is stuck in a crag in the lake. Also, what do you say to the wise owl in the tree?

Trevor Robinson of Peak Hill in NSW is stuck in *Future Wars*. A certain man with a gun that obviously is not fake, has the annoying habit of killing Trev. Not very nice, but there must be an answer...

Slaygon, a game never heard of among the ranks of adventures in the Realm, is troubling **R.Coomber & Son**. Help wanted on what to do after completing the first level.

David McKinney, donator of hint sheets galore, has got himself really stuck deep in it. He's been playing the original adventure (550) found on Fish Disk 82. The following problems are making David cringe with agony:

1) How do you get the sword from the stone? (Mike's Tip: Try eating mushrooms).

2) How do you kill the ogre?

3) How do you get across the bridge in the volcanic area? I think these are relatively simple problems compared to those in *Hitchhikers Guide*, which Dave claims to have solved in three days (and I betcha he spent every minute of those 72 hours behind his computer!).

The problem section would not be complete without one from the dreaded Pro-Pack adventure series.

Anthony Jones of Windsor in Qld is stuck in *Island of Spies*. He simply wants to know how to cross the crevice.

Meanwhile, *The Pawn's* advance interactor is playing word games with Adam Holyoak and Wilma Ledema of Thornlands in Qld. They tried entering the following commands and received some very weird replies:

▲ They entered: Please give me some help on the Boulder.

▼ The Game replied: To what?

▲ They entered: Move it!

▼ Game replied: But you have got the player!

▲ They entered: Examine player.

▼ Game replied: The player looks a wild and crazy guy.

They checked their inventory and there was no sign of a player there! (MS: I think they've got a case of the *Hitchhikers!*)

Ross Turner of Kambalda West (W.A) is stuck in a few role-playing games that are beyond Kaz Andy.

In *Legend of Blacksilver* he cannot find the key to get into the last (yellow) teleport section of the second panel of labyrinth castle. Then in *Phantasie I*, he cannot get the water and earth elemental runes or get into the Delbonial Clerics dungeon.

Gerald Boots of Goulburn in NSW is stuck in *Space Quest I*. The mundane task of killing the monster Otor is troubling Gerald at the moment.

Then, in *Space Quest II*, **Susan Dawson** wants to know what to do with the running man. Then in *Fish*, what does she do once she has killed the bird and made the gold mould?

Belle Sherrin of George Town in Tasmania is stuck in *Knight Orc*. She has finished part 1 and has 9 spells in part 2 and 3, but now she's hit a brick wall.

Graeme Evans of Clifton Hill is stuck in *Leather Goddesses of Phobos*. First he keeps getting zapped by the Ion beam on the Canal. Then in *Cleveland* he cannot find out how to move beyond the initial scene (Mikes tip: Try looking through the bedroom window!)

J.H.Roelofs of Norseman in W.A. is stuck in *Holy Grail*. Having found the grail, he/she does not know what to do with it! Does it have something to do with the wizard in the cave, J.H. asks?

Bastow Manor is also causing concern - like getting into the house!

An adventurer with an unreadable signature from Mandurah (in W.A) wrote with problems in *Leisure Suit Larry*. Could someone send in a detailed solution to obtaining the wine for Fawn in the honeymoon suite.

Last but not least, *Lurking Horror* is

troubling **Scott Walker** of Balmain (NSW), who asks...

1) How do you leave the dome with the hand?

2) How do you leave the lab after dipping the hand?

3) Can anything be done with the altar or the brick wall?

Help, Help and More Help (or the Smart Adventurers Dept)

If your problem appeared among these pages a few months back then there is a very high chance the solution is here. Many thanks on behalf of all the troubled adventurers to all the smart adventurers who sent in their hints and tips.

Game: Leisure Suit Larry II

For: Susan Dawson

From: Nathan Allen (Pennant Hills, NSW)

Help: To open the elevator at the top of the volcano, move very close to the edge of the chasm and stuff air sick bag in bottle, then light bag, and very quickly, drop bottle. The explosion should open the elevator.

Game: Indy

For: Spaceflight

From: Robin Trulock (Glenhaven, NSW)

Help: To open the chest in Henry's house, pull the bookcase on top of the other bookcase. There is sticky tape on the back of it which contains the key for the chest. The sticky tape can be dissolved by the cleaning liquid in a jar in Indy's room at the college. You cannot get to the crypt through the grate. You must first have the hook from the skeleton's arm and the wine bottle from the restaurant (where you meet Dr. Schneider). Look at the bottle before trying to take it. Then in the catacombs, find the torch on the wall and use the bottle with the torch. Refill the bottle by finding the room full of water (with the wooden plug under the water) and use bottle with pool of water. Then use bottle with torch again to free it. Pull the torch and ...

Game: Zak McKracken

For: Ben Del Fabbro & Keir Sooby

From: Mark Healy (Esk, Qld)

Help: To get Zak up to Mars you must find the other crystal shard (in the Mayan Temple). The dreaded force field can be turned off by obtaining the Ankh (behind the second massive door). To open the second massive door record the sound of another massive door. Once you have both crystal shards, use the

scroll, the pole, and the shards at stone henge.

Game: Space Quest II

For: Anyone!

From: Mark Brown

Help: Watch out for the affectionate Alien on the asteroid. Anyone lost on the asteroid? Go down to level two (use the stairs), walk left, then walk right. The floor will start to slide to the left. Wait until the last second then put the plunger on the wall. The robots will short circuit and you will be free to walk past them to Vohaul's control centre on the right.

Game: Pool of Radiance

For: Eddy Cheung

From: Paul Bartsch (Adelaide, S.A)

Help: When constructing a party, have several specialist fighters so they progress levels quicker. Have several specialist magicians for the same reason, and then one or two combinations. Go to the fighter and rogues guild and enlist a hero to your party. Go to the uncivilised area and fight a group of monsters (any will do). Kill them all and also the hero. Collect all their weapons and especially the heroes, as these can all be sold at the shops (MS: What a barbaric game!!). With equipped characters, go to Sokol Keep. To avoid undead parties, choose to parlay (talk) and say the word SHESTNI which causes them to leave.

The Dungeon by Kamikaze Andy

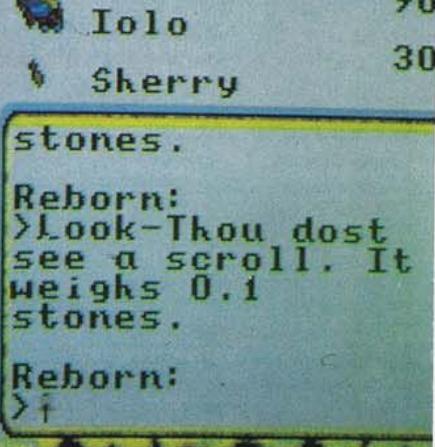
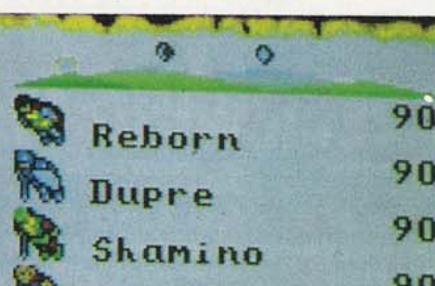
The Dungeon is usually your column for the latest in the news and reviews of role-playing games, but with this month's instalment I've decided to profile a company which is the very essence of role-playing.

That company is Origin, home of the mighty *Ultima* series and the liege of all role-players, Lord British. A profile of Origin at this time also coincides with the celebrations underway in the realm of Britannia, for 1990 is the 10th anniversary of the creation of *Ultima*. The company behind the game, Origin, was only formed in 1983, as a result of the increasing popularity of the *Ultima* series. The first two *Ultimas* were previously published under the *Sierra On-Line* label, and it was the success of *Ultima II* (over 100,000 sold within two years and for 8 bit machines only!) which prompted the creator of the *Ultimas*, Lord British, to start his own company. The history of Richard Garriott (alias Lord British) is just as fascinating as his creations.

Richard is the son of Owen Garriott (an ex-Nasa astronaut who was part of the Skylab projects), and was born in England. After moving to the States at an early age, he began working on his first project while working as an employee in

Computerland. This project eventually turned into *Akabeth*, which sold 25000 copies on the Apple II alone. The success of *Akabeth* persuaded Richard to pursue computer games designing as a full time job, and within a year, the first *Ultima* was born. Origin's original founders consisted of Richard Garriott, father Owen, brother and president of Origin, Robert, and a close friend Chuck Bueche (designer of *Autoduel*).

Over the years, Origin has grown in size and stature, and it currently has two head offices (in Texas and New Hampshire). The games produced by Origin have also varied over the years. Although the *Ultima* series was the established Origin product, the company began to diversify into science-fiction in 1986 with the release of *Autoduel*. Based on the popular Steve Jackson pen and paper rpg, *Autoduel* was an immediate hit and received many accolades from the U.S press. The game proved to the public that Origin was more than just a one-product company, and this was further shown with the release of *Moebius*, an oriental rpg. Already selling nearly 100,000 copies to date, it has spawned a recent sequel. Actually, all of Origin's re-



Above pictures from Ultima VI.

leases have been spectacularly successful, with many pushing the 100,000 copies sold mark. The first four *Ultimas* have sold over 1 million copies in total, with *Ultima IV* current holding the best selling Origin title at over 250,000 copies sold. *Ultima V* has nearly reached the 200,000 barrier, and the recent release of the 16-bit versions should push it past the 250,000 mark.

The latest *Ultima*, *Ultima VI: The False Prophet* has smashed sales records on the PC, with over 50,000 sold in the first few months. Recent big sellers include: *Space Rogue*, *Windwalker*, *Knights of the Legend*, *Times of Lore*, and *Omega*. At the recent CES show in Chicago, Origin previewed its new releases, which included *Bad Blood* (a post nuclear sci-fi rpg), and *WingLeader*, a space-based rpg. Also on preview was a new series of titles which would use the technology of *Ultima*, but with entirely different storylines. The Savage Empire used the graphics and game system of *Ultima VI*, and pits the player in the Amazon jungle on the quest to defeat a mad scientist and recover a precious artifact. Origin has decided to name the titles using *Ultima*-related storylines as its *World of Ultima* series. The success of *Ultima* and Origin has come from around the world. There are plans to produce French, Spanish, and German versions of *Ultima* games, and there are also Nintendo and Sega versions of *Ultima III* and *IV* (which have sold over a million copies by themselves!).

Lord British is now an international celebrity, from Europe to America to Japan. It has been Japan which has taken Lord British and *Ultima* to the zenith of its popularity. There are even *Ultima* comic books, novels, records and CD's, and even a cartoon featuring the folk of Britannia! Lord British himself appeared on Japanese TV in numerous commercials for the Nintendo version of his game. It is no wonder Richard Garriott can afford to own a huge mansion in the

hills of Texas, complete with waterfall, of Azul. caves, secret passages between rooms(!), and an entire collection of fantasy memorabilia.

So, what of the next 10 years? Origin and *Ultima* series will continue to dominate software sales, and Lord British is currently designing the next sequel, *Ultima VII* (with a projected mid 1991 release). There are also plans for *Ultima* fantasy novels and an *Ultima* board game has already been released. Perhaps a movie version of *Ultima* is next....?

(The *Ultima* games and others by Origin are distributed by Dataflow, 02 331 6153.)

Realms General Hints & Tips

Game: Lord of the Rings

Help: To defeat the Barrow Wight, you need to rob him of everything then throw an elf stone at him. Moira cannot be entered without Gandalf. To cross the ford at Rivendell you must ride the white stallion. Tell it where to go, and discard it once you have crossed over. Radagast can be found in the Blue Mountains observatory to the west of Hobbiton. Do not kill the monk! (Tips courtesy of David Oxley)

Game: Gold Rush

Help: Look between the boards in the house in the park. Buy vegetable and citrus fruit for the journey. Look out for mozzies in Panama!

Game: Bards Tale II

Help: In the bank, list the accounts and close the one with just asterisks and look at your gold. Wow! One billion just for you! (Tips courtesy of Mr Duuk Tsarith)

Game: Dallas Quest

Help: Apply a little warmth to the eggs, and see what pops up!

Game: Magicians Ball

Help: Once you've got the mouse, its tail can unlock the wooden door. Once open, break the mouse. When it crumbles you can unlock and open the sluice gates. The key in the fountain unlocks the cell

Game: Return to Eden

Help: To avoid the explosion, dig at the molehill and go down and sleep. To pass the Levaither you need the fungus when the brick coloured bird appears, so...drop sweetpea, get egg, plant egg, enter house, get fungus. (Tips courtesy of Stuart Elflett). □

C64 SOFTWARE

EXTENSIVE RANGE OF PUBLIC DOMAIN SOFTWARE FROM UK, USA, AUSTRALIA.

EACH DISK CONTAINS MANY EXCITING PROGRAMS FOR ONLY \$5 PER DISK.

● SPECIAL ● INTRODUCTORY OFFER

5 DISKS - \$20

+ FREE CATALOGUE DISK

● GAMES ● GRAPHICS

● UTILITIES

● TUTORIALS

IMMEDIATE DELIVERY

PLEASE SEND 5 DISK OFFER
\$20 CHQ/M.O. ENCLOSED

Please tick your preference(s):

Games Computing
 Art General

PLEASE SEND FREE
CATALOGUE

Name: _____

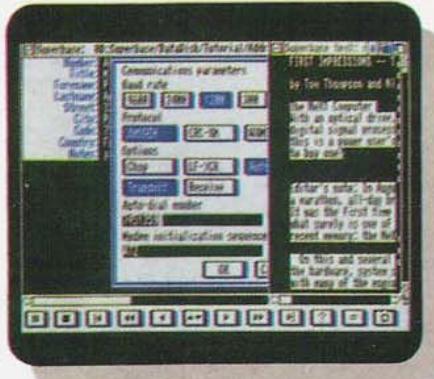
Address: _____

PostCode: _____

Post To: BRUNSWICK PUBLICATIONS
29 WATSON STREET
BONDI NSW 2026

Allan Crouch	63	ECP/EA	13	Pacific Microlab	5
Amiga Live	63	Fonhof Computers	17	Pactronics	4, 25, 51
Briwall	46/47	GP Software	39	Parcom	20
Brunswick	78	Hard Disk Cafe	17, 54, 55, 56	Pelham	22
Busisoft	21	Harris Hi-Tek	34	Power Peripherals	3, 37
Charlie's Computer Workshop	22	Home Entertainment	OBC, 40, 41	Prime Artifax	74
Commodore	10, 11, 26, 65	HPD	21, 45, 48	Quadrant	12
Computer Discounts	32, 33	Interlink	58, 59	Rod Irving	57
Computermate	IFC IBC 19/20 27 43 61/62	Island by Mail	47	Romac Computers	53
Computer Spot	28, 29, 30, 31	Logico	49	Roseneath	61
Dataflow	9	MAST	32, 33	Shop 64	43
Desktop Utilities	6	Maxwell	35	Subscriptions	71
Digisoft	23	Megadisc	2	Unitech	22
Digital Arts	22	Multicoin	57	XEL Pty Ltd	47
		PCM Computer Design	8	Whites	8

With the right software, you're in business.



Browse through your data using the VCR-style panel and view related text or image files.



**Data management
Text processing
Relational querying**

Superbase Personal 2 has all the power you need to set up and manage multi-file databases.

- Apply cross-file lookups and validations for data accuracy and consistency
- Change file definitions any time
- Browse through your data in any index sequence using the unique VCR-style browsing controls
- View data page by page or in tables, and build powerful relational queries and reports
- Edit text documents, print merge letters and labels
- Include text, IFF image and sound files as data
- Communicate data via modem

"Personal 2's LOOKUP command... gives the program a decided advantage over most of its competitors."

AmigaWorld July '89

\$99.00

Invest in the best.



Build menu-driven applications accessing forms under DML control.



**Form design
Application development
Relational DBMS**

Superbase Professional is the experts' choice both for executive use and for Fourth Generation application development. As well as all the menu-accessible features of Personal 2, Superbase Professional includes:

- Database Management Language (DML) with over 250 powerful commands and functions for execution directly via the command line or in programs
- Form Designer with access to a wide range of graphical and logical design objects, including images as data, one-to-many relationships and DML commands
- Report Program Generator for on-screen painting of reports and generation of report programs
- Programmable Communications facilities and ARexx support

\$289.00



Use the spreadsheet to allocate resources to projects. Print wall planning and GANTT charts.



**Spreadsheet
Time management
Business graphics**

Superplan gives you full-featured spreadsheet planning power plus the ability to track resources and projects over time:

- Print wall planning charts, GANTT charts, do critical path analysis
- Display and print graphs with over 100 different styles and options
- Sideways printing, full color output, extensive printer support
- Comprehensive macro language
- Lotus 1-2-3 and dBase file compatible
- Full ARexx support

\$119.00

Now get down to business.

Distributed and Supported in Australia by:
COMPUTERMATE
products (australia) pty. ltd.

P.O. Box C64, Mt. Kuring-Gai, N.S.W. 2080
Phone: (02) 457 8388 Fax: (02) 457 8739
Technical Support: (02) 457 8548

Precision Software

TURBOLOAD

CARTRIDGE FOR COMMODORE 64

LOADS
DISKS
FASTER



- Easy to instal cartridge, simply plugs into your Commodore 64 or 128.
- Loads disks up to 6 times normal speed with both the 1541 and 1571 disk drives.
- Simplified DOS commands for loading files, formatting disks, deleting files etc.
- Stoppable directory listing which does not overwrite programs in memory.
- Built in menu maker to provide a menu for each disk to simplify loading and running of programs.
- Easy listing of BASIC programs to printer.
- Text screen dump to printer.
- Reset button — ideal for magazine pokes.
- One year warranty.

NSW –
GAMES WIZARD, Granville
Ph: (02) 682 1268; STEVES COMMUNICATIONS,
Fyshwick Ph: (06) 280 6877; SHOP 4, Wollongong Ph: (042) 26 2688;
THE GAMESMEN, Penshurst Ph: (02) 580 9988; VIC – MIDI-MOUSE COMPUTERS,
Werribee Ph: (03) 749 4138; Altona Ph: (03) 314 4669; Chadstone Ph: (03) 569 0278; MAXWELLS, Abbotsford
Ph: (03) 419 6811; QLD – ACTIVE COMPUTERS, Townsville Ph: (07) 72 3793; CITY COMPUTER CENTRE, Rockhampton
Ph: (07) 27 3618; PCB ELECTRONICS, Cairns Ph: (07) 54 7305; PICK & PAY HYPERMARKET, Aspley Ph: (07) 263 1588;
UNITED COMPUTERS, All Stores, WA – COMPUTER CORNER, Maddington Ph: (09) 459 0650; STANBRIDGE GAMES,
Balcatta Ph: (09) 345 1922; SA – HARRIS SCARFE, Rundle Mall Ph: (08) 203 4444; PLAZA COMPUTERS, Modbury
Ph: (08) 264 9399; TAS – ANGUS & ROBERTSON BOOKSHOPS, Hobart Ph: (02) 34 4288; Launceston Ph: (003) 34 0811;
QUADRANT COMPUTER CENTRE, Launceston Ph: (003) 34 3436; BIRCHALLS, Launceston Ph: (003) 31 3011.



Proudly made and distributed in Australia by:
HOME ENTERTAINMENT SUPPLIERS PTY. LTD.
Unit 1/128 Bonds Road, Riverwood 2210 NSW (02) 533 3277